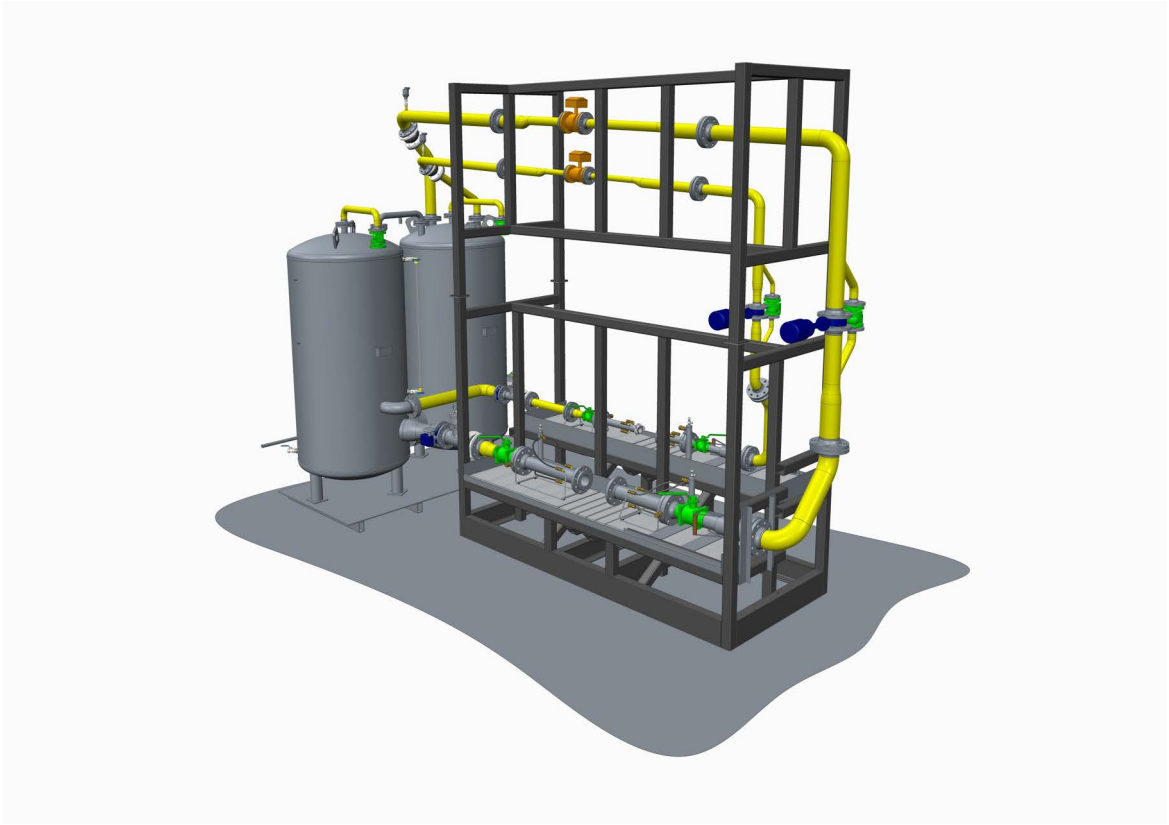
Certificates and test reports

series: Pumps and Booster systems



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1 Introduction

1.1 General

DP-Pumps can provide a serie of certificates to proof the compliance of the product range of vertical and horizontal multi-stage centrifugal pumps and installations to the applicable standards, directives and documents, to meet the demands of the customer. Among other chapters, in this document you will find the available serie of certificates.

1.2 Series of certificates

1.2.1 Non-specific

2.1 Non-specific certificates, represent the compliance with the order. You are free to use the available 2.1 certificates which we have provided in this document.

1.2.2 Type/order specific

2.2 Certificates are the standard, type and/or order specific certificates which can be acquired by ordering the certificate of your choice at DP-Pumps. The certificates you will find in this document are examples of the possibilities of what can be ordered at DP-Pumps. For prices of the required standard certificates please contact DP-Pumps or your local contact/supplier. Pricelists are available.

1.2.3 On demand

3.1 and 3.2 inspection reports. The content and test data of these certificates is to be determined and agreed upon by the customer and DP-Pumps according to chapter 3; On demand testing. Prices fully depend on the required content and test data and are agreed upon between the customer and DP-Pumps.

3.1 Certificates are available in German, Dutch, French and English. The 3.2 certificates in English.

1.3 EN 10204

All certificates for the vertical and horizontal multi-stage centrifugal pumps and installations provided by DP-Pumps are according to EN 10204. This European standard defines the different types of inspection documents supplied to the purchaser, in accordance with the requirements of the order, for the delivery of all metallic products, but may also be used for other products like pumps. For your information we have explained the exact contents of the certificates and the method of testing in the sub chapters mentioned in the table.

Type of Cerificate			Provide by	Page
2.1	**A document confirming products' compliance with the requirements specified in the order, not test results**			
2.1	Statement of compliance with the order ISO 9906			10
2.1	Atex			11
2.1	Asbestos free			12
2.2	**Statement of compliance with the order, indicating results of non-specific inspection**			
2.2	ACS		M	14
2.2	Quality acceptance		M	15
2.2	WRAS		M	17
2.2	Specifications		M	18
2.2	NSF		M	-
2.2	Spare parts		M	-
3.1	**Statement of compliance with the order, indicating results of specific inspection**			
3.1	Hydraulic		M	-
3.1	Hydrostatic		M	-
3.1	Hydraulic + Hydrostatic		M	-
3.1	Hydraulic+ Hydrostatic + Vibration		M	22
3.1	Hydrostatic + Vibration		M	-
3.1	Coating + Visual inspection		M	-
3.1	PTFE & Silicon free		M	27
3.1	ATEX		M	-
3.1	Unit inspection		M	28
3.1	Material inspection		M	-
3.1	Silicone component free		M	-
3.1	Custom made inspection (ITPL for projects)		M	-
3.2	**Statement of compliance with the order, indicating results of specific inspection**			
3.2	Hydraulic + Hydrostatic		*1	-
3.2	Hydraulic+ Hydrostatic + Vibration		*1	31
3.2	Booster set or installation		*1	-
M	Manufacturer			
*1	When the 3.2 certificate is requested the manufacturer will prepare a test report to present to the inspector			
	List of notified bodies;			
	DNV	(Det Norske Veritas)		36
	ABS	(American Bureau of Shipping)		-
	BV	(Bureau Veritas)		-
	RINA	(Registro Italiano Navale)		-
	LR	(Lloyd's Register EMEA)		-
	RMRS	(Russian Maritime Register of Shipping)		-
	Others	on request		-

1.3.1 2.1 Certificates of compliance with the order

The certificate of compliance with the order is a document drawn up on the basis of non-specific inspection and testing which means that tests and inspections are carried out by the manufacturer in accordance with his own procedures to assess whether products made by the same manufacturing process meet the requirements.

1.3.2 2.2 Test report

Document in which the manufacturer certifies that the products supplied are in compliance with the specifications of the order and in which he supplies test results based on non specific testing and inspecting which means that tests and inspections are carried out by the manufacturer in accordance with his own procedures to assess whether products made by the same manufacturing process meet the requirements specified in the order. The products inspected and tested need not necessarily be the products actually supplied.

1.3.3 3.1 Inspection certificate

A document issued by the manufacturer which declares that the products supplied are in compliance with the requirements of the order and is supported by evidence of the manufacturer's test results. The document is validated by the manufacturer's authorized inspection representative, independent of the manufacturing department.

1.3.4 3.2 Inspection report

A document prepared by both the manufacturer and an independent third-party in which they declare that the products supplied are in compliance with the requirements of the order and in which test results are supplied.

2 General description of the test facility

2.1 Hydraulic performance testing

The vertical and horizontal multistage pumps produced at DP-Pumps can be supplied with a hydraulic test certificate (DPV2 B up to DPVF 125 B, DPV 15 C, DPH(S)I 2 B up to DPH(S)I 10 B and DPH(S)I 15 C. For this certificate an hydraulic performance test is performed, and the outcome is given in a hydraulic test report. Herein it is determined whether the pump meets a requested operation point (pressure at a certain flow), as described in ISO 9906:2012 grade 3B.

These tests are performed at different test installations available at DP-Pumps.

The following hydraulic certificates are available:

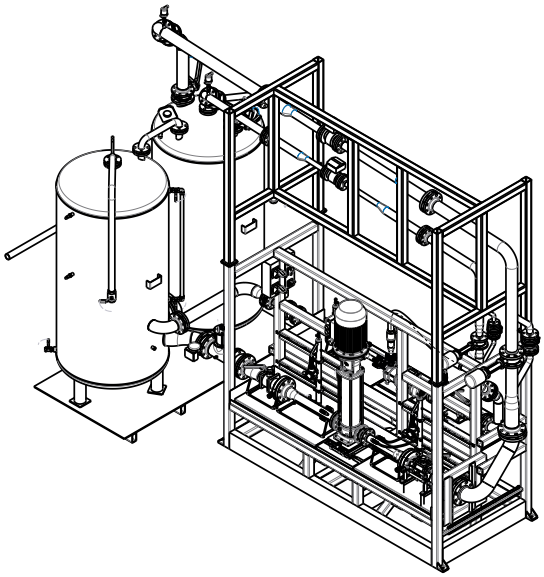
3.1 certificates

These none witnessed hydraulic tests are, depending on the pump type, performed at different available test installations nearby the assembly line of the pump.

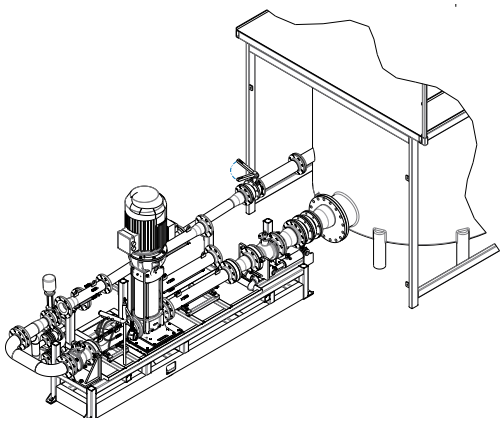
3.2 certificates

3.2 hydraulic test are performed together with an independent third party. These tests are performed at a special test facility at DP-Pumps. This test facility incorporates 2 test installations, with 3 loops, where all pumps can be tested.

Loop	Pump types	Flow [m3/h]	Size flow meter	Tank
1	V2 - V15 H2-15	0.2-25	DN40	Open, can be closed
2	VF25 - VF60 VF85 (50Hz)	2.8-110	DN65	
3	VF85 - VF125	7-200	DN100	Open



Loop 1 and 2



Loop 3

2.1.1 Measurements

For hydraulic performance testing of pump operation points (pump head at certain flow Q), different quantities have to be measured.

Flow measurement:
The water flow (volume water per time unit) is measured with an electromagnetic flow sensor. Siemens MAG 3100/5100 with MAG 5000/6000 are used, in different sizes depending on the pump size.

Pressure measurements:
The inlet and outlet pressure are measured. From this the pump head is derived, see the appendix.

$$H = z_2 - z_1 + \frac{p_2 - p_1}{\rho_m \cdot g} + \frac{U_2^2 - U_1^2}{2g}$$

H= Pump total head [m]
z_2=pump outlet height above reference plane [m]
z_1= pump inlet height above reference plane [m]
p_2 = pump outlet pressure [N/m^2]
p_1 = pump inlet pressure [N/m^2]
ρ = density of pump fluid [kg/m^3]
g = Acceleration due to gravity [m/s^2]
U_2 = Outlet mean velocity [m/s]
U_1 = Inlet mean velocity [m/s]

The pressure is measured with Endress+Hauser PMC51 pressure transmitters.

Rotation speed:
The operating point is strongly related to the pump rotation speed. The rotation speed of the asynchrone motors vary slightly. Therefore this rotation speed is measured and by means of similarity rules used to determine the operating point (Q and H) at the fixed rotation speed (specified rotation speed at the pump data).

Flow rate

$$Q_T = \frac{n_{sp}}{n} \cdot Q \quad [m^3/h]$$

Head

$$H_T = \left(\frac{n_{sp}}{n}\right)^2 \cdot H \quad [m]$$

Q_T = flow at specified speed of ration [m^3/h]
Nsp = specified (fixed) speed of rotation [rpm]
n = speed of ration at test [rpm]
Q = flow at test [m^3/h]
H_T = Total head at specified speed of rotation [m]
H = Total head at test [m]

The rotation speed is measured by an optical hand device.

All used sensors are calibrated with traceability to international standards.

2.1.2 Hydrostatic and vibration certificate

The hydraulic certificates can be combined with:

- **Hydrostatic certificate:**
  For this certificate the pump strength is tested in line with EN 809+A1/C1:2010. A hydrostatic pressure of 1,5 times the maximum pump pressure is applied to the pump.

- **Vibration test;**
  For this certificate during the hydraulic measurements also vibrations are measured. This is done at each measured operation point/ flow. The root mean square vibration speed is determined and judged in accordance to the provisions of ISO 10816-7:2009 (Category II). The measurement is performed on the motor bearing (shaft side) in two perpendicular directions of the horizontal plane: the direction of the coupling guard and perpendicular to this direction.

2.1.3 Internal tests

The test bench with loop 1, 2 and 3 (see figure 1 and 2) are also used in pump development. Additional to the measurement of the pump total head versus flow (measured for the hydraulic certificate), also the following hydraulic pump performance data can hereby be measured/determined:

- Flow versus pump shaft power
- Flow versus hydraulic efficiency
- Flow versus hydraulic NPSHr

3 Certificates

3.1 2.1 Compliance with the order

These 2.1 certificates, which represent the compliance with the order.

The following test reports have been added to this document:

- Statement of compliance with the order ISO 9906
- Atex
- Asbestos free

3.1.1 2.1 Statement of compliance with the order

dp pumps

DECLARATION OF COMPLIANCE WITH THE ORDER
(2.1)
9906/9001

according to EN 10204:2004

We, the undersigned,

KSB Manufacturing Netherlands B.V.
Kalkovenweg 13
2401 LJ Alphen aan den Rijn
The Netherlands

certify and declare under our sole responsibility that the following product:

Vertical multi-stage centrifugal pumps type(s):
DPV(-/C/S/M)(-,F,V,T,E,I)

to which this certificate relates is (are) in conformity with:
Performance curves as published in
catalogues and technical documentation

representing the mean performances of a series of pumps of the same type
as determined in the following standard(s) or normative document(s):
ISO 9906:2012 (Grade 3B)

according to the provisions of (when applicable):

ISO 9906:2012 Table 8 / ISO 9001:2015

KSB Manufacturing Netherlands B.V.
Alphen aan den Rijn,
3-2-2023

signature of the authorised person
R.C.J. Bijman
Manager Competence Centre Products

dp pumps

DECLARATION OF COMPLIANCE WITH THE ORDER
(2.1)
ATEX

according to EN 10204:2004

We, the undersigned,

KSB Manufacturing Netherlands B.V.
Kalkovenweg 13
2401 LJ Alphen aan den Rijn
The Netherlands

certify and declare under our sole responsibility that the following product:

Vertical multi-stage centrifugal pumps type(s):
DPV(-/C/S)(-,F,V,T,E)

to which this certificate relates is (are) in conformity with
the following standard(s) or normative document(s):
ISO 80079-36

ISO 80079-37

Filing nr.:
20110775 / 11 ATEX D048

according to the provisions of (when applicable):

Directive 2014/34/EC

KSB Manufacturing Netherlands B.V.
Alphen aan den Rijn,
7-2-2023

signature of the authorised person
R.C.J. Bijman
Manager Competence Centre Products

dp pumps

DECLARATION OF COMPLIANCE WITH THE ORDER (2.1)

Asbestos free

according to EN 10204:2004

We, the undersigned,

KSB Manufacturing Netherlands B.V.
Kalkovenweg 13
2401 LJ Alphen aan den Rijn
The Netherlands

certify and declare under our sole responsibility that the following product:

Vertical multi-stage centrifugal pumps type(s):

DPV(-/C/S/M)(-,F,V,T,E,I)

to which this certificate relates is (are) produced with materials of which the chemical composition is:

Asbestos free

and in conformity with the following

standard(s) or normative document(s):

Certificates provided by the suppliers, Internal inspections

according to the provisions of (when applicable):

ISO 9001:2015

KSB Manufacturing Netherlands B.V.
Alphen aan den Rijn,
7-2-2023

signature of the authorised person
R.C.J. Bijman
Manager Competence Centre Products

3.2 2.2 Test report

On the next pages you will find the standard, type and/or order specific certificates which can by acquired be ordering the certificate of your choice at DP-Pumps. The certificates you will find in this document are examples of the possibilities what can be ordered at DP-Pumps. The certificate themselves you can download on our site; www.dp-pumps.com tab download centre. For prices of the required certificates please contact DP-Pumps or your local contact/supplier.

The following examples have been added to this document:

- 2.2 ACS
- 2.2 Quality acceptance
- 2.2 WRAS
- 2.2 Specifications

See www.dp.nl tab download centre for the pdf-versions of the certificates itself

dp pumps

TEST REPORT 2.2
ACS

according to EN 10204:2004

We, the undersigned,

KSB Manufacturing Netherlands B.V.
Kalkovenweg 13
2401 LJ Alphen aan den Rijn
The Netherlands

certify and declare under our sole responsibility that the following product:

Vertical multi-stage centrifugal pumps type(s):
DPV(-/C/S/M)(-/F/V/T/E/I)

to which this certificate relates is (are) in conformity with
the following standard(s) or normative document(s):
ACS certificate:
Order number

KSB Manufacturing Netherlands B.V.
Alphen aan den Rijn,
17-2-2023

signature of the authorised person

dp pumps

TEST REPORT 2.2
Quality acceptance
according to EN 10204:2004

We, the undersigned,

KSB Manufacturing Netherlands B.V.
Kalkovenweg 13
2401 LJ Alphen aan den Rijn
The Netherlands

certify and declare under our sole responsibility that the following product:

Vertical multi-stage centrifugal pumps type(s):

Pomptype

to which this certificate relates is (are) in conformity with
the following standard(s) or normative document(s):
Quality acceptance report nr.:

Order number

Certified material specifications provided by the suppliers

according to the provisions of (when applicable):

ISO 9001:2015 / ISO 9906:2012 (Grade 3B)

KSB Manufacturing Netherlands B.V.
Alphen aan den Rijn,
17-2-2023

signature of the authorised person

dp pumps

Quality acceptance report

Pump model:	Frequency:	Motor poles:	Rated power: [kW]	Report nr.:
000 00 0	0	0	0	Nummer invullen! - Nummer invullen!

Motor label:	Rated voltage: [V]	Phases:	Efficiency class:	Rated speed: [rpm]	Protection class:	Date of issue:
0	0	3ph		0	0	17-2-2023

Test results:

Performance test*		
Test point flow	± 9%	0
Test point discharge head	± 7%	0
Maximum discharge head	± 7%	0

Seal test	
Water tightness during performance test run (dynamic conditions)	Passed
Water tightness during performance test run (static conditions)	Passed

Construction / assembly quality check	
Nameplates / identification	Passed
Accuracy of assembly	Passed
Stains removal and polish	Passed

Compliance with the order	
Verification of bill of materials / parts list	Passed
Verification of production order	Passed

Result of quality acceptance test	**Passed**

* Tested in conformity with standard ISO 9906:2012 (Grade 3B)

dp pumps

TEST REPORT 2.2
WRAS

according to EN 10204:2004

We, the undersigned,

KSB Manufacturing Netherlands B.V.
Kalkovenweg 13
2401 LJ Alphen aan den Rijn
The Netherlands

certify and declare under our sole responsibility that the following product:

Vertical multi-stage centrifugal pumps type(s):
DPV(-/S/M)(-/F/V/T/E)

to which this certificate relates is (are) in conformity with
the following standard(s) or normative document(s):
WRAS certificate:
Order number

KSB Manufacturing Netherlands B.V.
Alphen aan den Rijn,
17-2-2023

signature of the authorised person

dp pumps

TEST REPORT 2.2
Specifications

according to EN 10204:2004

We, the undersigned,

KSB Manufacturing Netherlands B.V.
Kalkovenweg 13
2401 LJ Alphen aan den Rijn
The Netherlands

certify and declare under our sole responsibility that the following product:

Vertical multi-stage centrifugal pumps type(s):

Pomptype

to which this certificate relates is (are) in conformity with
the following standard(s) or normative document(s):
Specifications report nr.:

Order number

Certified material specifications provided by the suppliers

according to the provisions of (when applicable):

ISO 9001:2015

KSB Manufacturing Netherlands B.V.
Alphen aan den Rijn,
17-2-2023

signature of the authorised person

dp pumps

Specifications report

Pump model:	Frequency:	Motor poles:	Rated power: [kW]	Report nr.:
DPVSF 6/6 B	**50Hz**	**2P**	**1.5kW**	**400730094 - 1834807**

Motor label:	Rated voltage: [V]	Phases:	Efficiency class:	Rated speed: [rpm]	Protection class:	Date of issue:
DMC	**230/400V**	**3ph**	**IE3**	**2900rpm**	**IP55**	**27-1-2023**

Specifications:

Mechanical seal specifications (Part. nr. 433)

Diameter	ø16	Material rotor	Ca
Construction	Cartridge	Material stator	SiC
Seal code	11	Material elastomer	EPDM
Type	MG12-G60	Pressure class	PN10
Material	B Q1 E GG	Temperature range	-20/+100°C

Colour specifications

Motor/Fanhood (800/801/802/832)	RAL5002	Pump casing (101)	Stainless steel
Flanged taper piece (722)	RAL5002	Baseplate (890)	RAL9011
Motor stool (341)	RAL5002		

Material specifications

Part.nr.	Description	Material code	Wetted part
10-6	Pump shroud	1.4404	✓
45-4	Spacer	-	✓
68-3	Cover plate	-	✓
101	Pump casing	1.4408	✓
Part of 101	(Loose plate) flange	JS1030	
108	Stage Casing	1.4404	✓
Part of 108/171	Bearing	Aluminium Oxide	✓
131	Inletring	-	✓
160	Cover	-	✓
171	Diffuser	-	✓
210	Shaft	1.4401	✓
230	Impeller	1.4404	✓
270	Deflector crown	-	✓
341	Motor stool	JL1040	
412	Pump elastomers	EPDM	✓
502	Casing wear ring	-	✓
532.01	Extention sleeve	-	✓
471	Seal cover	1.4408	✓
503	Impeller wear ring	-	✓
511	Center ring	-	
525	Spacer sleeve	1.4404	✓
529	Bearing sleeve	Tungsten Carbide	✓
720.01	Special pipe part	-	✓
722	Taper piece	JL1040	
723	Counter flange	-	
862	Coupling (up to 4 kW)	Aluminium AC-46000	
862	Coupling (from 5.5 kW)	JS1030	
890	Base plate	JL1040	
901.07	Hexagon head bolt	-	✓
903.01	Screwed plug (vent)	1.4404	✓
903.02	Screwed plug (drain)	1.4404	✓
905	Tie bolt	1.4057	
905.02	Tie bolt, internal	-	✓
914.06	Socket head cap screw	-	✓
920.02	Nut	1.4404	✓
920.04	Hexagon domed cap nut	1.4404	
930	Safety device Nord-lock	1.4404	✓
932	Circlip	1.4571	✓
950	Wave spring	1.4401	✓

Material conversion table

Material	Description	Code and material nr.	Standard	ASTM / AISI
JL1040	Cast iron	GJL-250	EN 1561	A48:40B
JS1030	Cast iron	GJS-400	EN 1563	
1.4057	Chromium-nickel steel	X17CrNi16-2--QT800	EN 10088-3	A276:431
1.4300	Chromium-nickel steel	X12CrNi18-8	EN 10088	A276:302
1.4301	Chromium-nickel steel	X5CrNi18-10	EN 10088	A276:304
1.4305	Chromium-nickel steel	X8CrNiS 18-9	EN 10088	A276:303
1.4308	Chromium-nickel cast steel	GX5CrNi 19-10	EN 10283	A743:CF8
1.4401	Chromium-nickel-molybdenum steel	X5CrNiMo 17-12-2	EN 10088	A276:316
1.4404	Chromium-nickel-molybdenum steel	X2CrNiMo 17-12-2	EN 10088	A276:316L
1.4408	Chromium-nickel-molybdenum cast steel	GX5CrNiMo 19-11-2	EN 10213	A743CF8M
1.4460	Chromium-nickel-molybdenum steel	X3CrNiMoN 27 5 2	EN 10088	A276:329
1.4571	Chromium-nickel-molybdenum steel	X6CrNiMoTi17-12-2	EN 10088	A276:316Ti

3.3 3.1 Inspection certificate

Following certificates are standard, type and/or order specific certificates which can be acquired by ordering the certificate of your choice at DP-Pumps. The certificates you will find in this document are examples of the possibilities what can be ordered at DP-Pumps. For prices of the required certificates please contact DP-Pumps or your local contact/supplier.

The following examples have been added to this document:

- 3.1 Inspection certificate Hydraulic / hydrostatic / vibration performance test
- 3.1 Inspection certificate PTFE & Silicon free test
- 3.1 Inspection certificate Unit test

3.3.1 3.1 Inspection certificate Hydraulic / hydrostatic / vibration performance test

dp pumps

INSPECTION CERTIFICATE 3.1

according to EN 10204:2004

We, the undersigned,

KSB Manufacturing Netherlands B.V.
Kalkovenweg 13
2401 LJ Alphen aan den Rijn
The Netherlands

certify and declare under our sole responsibility that the following product:

Vertical multi-stage centrifugal pump, type:
DPVF 15/3 C 50Hz 2P

to which this certificate relates is in conformity with the following standard(s) or other normative document(s):

Hydraulic performance test number
1836217-1
according to the provisions of (when applicable):
ISO 9906:2012 (Grade 3B)

Hydrostatic test number
1836217-1
according to the provisions of (when applicable):
EN 809+A1/C1:2010

Vibration test number
1836217-1
according to the provisions of (when applicable):
ISO 10816-7:2009 (Category II)

KSB Manufacturing Netherlands B.V.
Alphen aan den Rijn
14-2-2023

signature of the authorised person

Quality Control

dp pumps

HYDRAULIC testreport

Test/production nr:	Testdate:	Manufact. order number:	Customer/project:
1836217-1	14-2-2023	600193900	

Pump model:	Freq./motorpoles:	Production wk/yr:	Standard:	Motor brand:	Motor serial nr.:
DPVF 15/3 C	50Hz 2P	07-2023	Y	Cantoni	AR 158341

Motor type:	Rated power: [kW]	Rated current: [A]	Maximum current: [A]	Rated voltage: [V]	Rated speed: [rpm]	Nr. of phases:
DC3SIEK100L2	3	5,80	7,50	400	2920	3

Test liquid:	Temperature: [°C]	Chloride level: [%]	Density: [kg/m3]	Vapour pressure: [Bar]
Water	18	0	1000	0.27

Guarantee point:

Requested	BEP	
	19,20	[m³/h]
	34,4	[m H2O]

Notes:

Testresults:

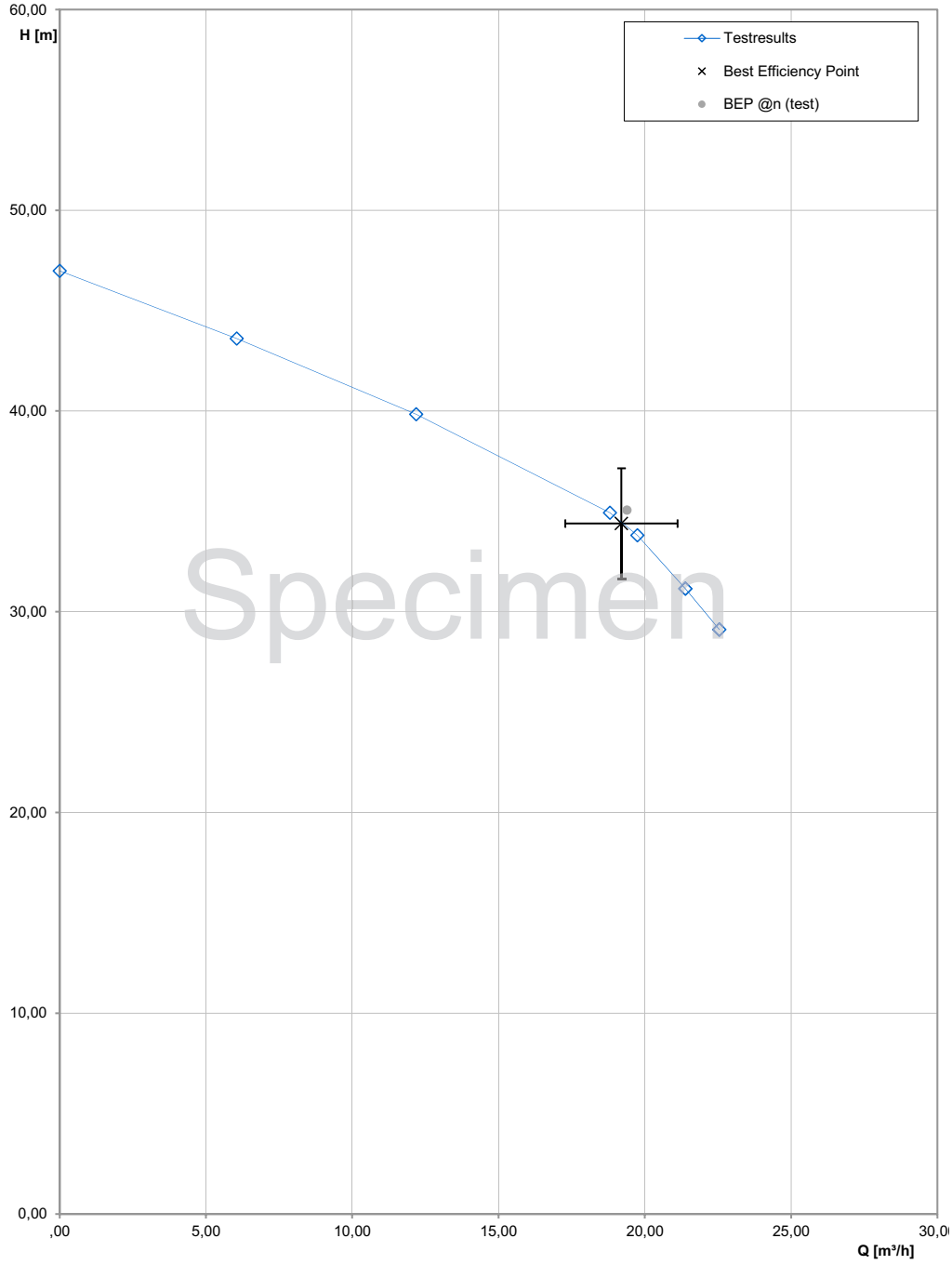
Nr.	Setpoint [m³/h]	Flow [m³/h]	Flow [l/s]	P1 [Bar]	P2 [Bar]	P [m H2O]	Current [A]	Speed [rpm]	Voltage [V]	Additional information
1	*(0)*	0,00	0,00	0,040	4,64	46,98	3,22	2974	400	
2	*(6,08)*	6,05	1,68	0,020	4,29	43,61	3,78	2961	400	
3	*(12,16)*	12,19	3,39	-0,030	3,87	39,83	4,62	2943	400	
4	*(18,24-19,2)*	18,81	5,23	-0,130	3,29	34,93	5,43	2928	400	
5	*(19,2-20,16)*	19,75	5,49	-0,150	3,16	33,81	5,51	2928	400	
6	*(21,33)*	21,39	5,94	-0,180	2,87	31,15	5,62	2926	400	
7	*(22,5)*	22,55	6,26	-0,200	2,65	29,11	5,69	2930	400	
8										
9										
10										
11										

Date of issue:	Tested by:	Approved by:	Notified body:
14-2-2023			

Purchase order number:

Tested in conformity with standard ISO 9906:2012 (Grade 3B)

DPVF 15/3 C 50Hz 2P **1836217-1**



dp pumps

HYDROSTATIC testreport

Test/production nr:	Testdate:	Manufact. order number:	Customer/project:
1836217-1	14-2-2023	600193900	

Pump model:	Freq./motorpoles:	Production wk/yr:	Standard:	Motor brand:	Motor serial nr.:
DPVF 15/3 C	50Hz 2P	07-2023	Y	Cantoni	AR 158341

Motor type:	Rated power: [kW]	Rated current: [A]	Maximum current: [A]	Rated voltage: [V]	Rated speed: [rpm]	Nr. of phases:
DC3SIEK100L2	3	5,8	7,5	400	2920	3

Test liquid:	Temperature: [°C]	Chloride level: [%]	Density: [kg/m3]	Vapour pressure: [Bar]
Water	18	0	1000	0.27

Testresults:

Nr.	Pressure class:	Hydrostatic test pressure: P*1.5 [Bar]	Duration of test: [min]	Result:	Additional information:
1	PN10	15,0	5	Passed	

Notes:

Date of issue:	Tested by:	Approved by:	Notified body:
14-2-2023			

Purchase order number:

Tested in conformity with standard EN 809+A1/C1:2010 and EN12162:2010

dp pumps

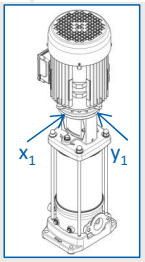
Testreport
Vibrations

Test/production nr:	Testdate:	Manufact. order number:	Customer/project:
1836217-1	14-2-2023	600193900	0

Pump model:	Freq./motorpoles:	Production wk/yr:	Standard:	Motor brand:	Motor serial nr.:
DPVF 15/3 C	50Hz 2P	07-2023	Y	Cantoni	AR 158341

Motor type:	Rated power: [kW]	Rated current: [A]	Maximum current: [A]	Rated voltage: [V]	Rated speed: [rpm]	Nr. of phases:
DC3SIEK100L2	3	5,8	7,5	400	2920	3

Test liquid:	Temperature: [°C]	Chloride level: [%]	Density: [kg/m3]	Vapour pressure: [Bar]
Water	18	0	1000	0.27



Vibration limit:

Category II	POR	AOR	
RMS	4,20	5,10	[mm/s]

Notes:

POR = Preferred operation range

AOR = Allowed operation range

Testresults:

Nr.	Setpoint [m³/h]	Flow [m³/h]	Flow [l/s]	Range	RMS x_1	RMS y_1			Additional information
0	*(0)*	**0,00**	**0,00**	**-**	**1,54**	**2,71**			
1	*(6,08)*	**6,05**	**1,68**	**AOR**	**1,55**	**2,72**			
2	*(12,16)*	**12,19**	**3,39**	**AOR**	**1,54**	**2,71**			
3	*(18,24-19,2)*	**18,81**	**5,23**	**POR**	**1,53**	**2,69**			
4	*(19,2-20,16)*	**19,75**	**5,49**	**POR**	**1,53**	**2,69**			
5	*(21,33)*	**21,39**	**5,94**	**POR**	**1,49**	**2,71**			
6	*(22,5)*	**22,55**	**6,26**	**AOR**	**1,51**	**2,67**			

Date of issue:	Tested by:	Approved by:	Notified body:
14-2-2023	VaAk	HaBl	

Purchase order number:

Tested in conformity with standard ISO 10816-7:2009 (Category II)

dp pumps

INSPECTION CERTIFICATE 3.1
PTFE & Silicone free

according to EN 10204:2004

We, the undersigned,

KSB Manufacturing Netherlands B.V .
Kalk ovenweg 13
2401 LJ Alphen aan den Rijn
The Netherlands

certify and declare under our sole responsibility that the following product:

MV00020295

DPV 4/4 B 50Hz 2P

to which this certificate relates is (are) free of:
significant traces of PTFE, silicon and other paint wetting impairment substances
(no PTFE and silicon components are used and specific assembly and cleaning procedures are applied)

Order number

standard(s) or normative document(s):

Certificates provided by the suppliers,
Internal inspections

according to the provisions of (when applicable):

ISO 9001:2015

KSB Manufacturing Netherlands B.V.
Alphen aan den Rijn,
30-3-2023

signature of the authorised person
Quality Control

3.3.3 3.1 Inspection certificate Unit test

dp pumps

INSPECTION CERTIFICATE 3.1
Booster set
according to EN 10204:2004

We, the undersigned,

KSB Manufacturing Netherlands B.V.
Kalkovenweg 13
2401 LJ Alphen aan den Rijn
The Netherlands

certify and declare under our sole responsibility that the following product:

HU 2 UL DPV 15/6 VC M

to which this certificate relates is (are) in conformity with
the following standard(s) or normative document(s):
Test report nr.:

Order number

according to the provisions of (when applicable):

ISO 9001:2015

KSB Manufacturing Netherlands B.V.
Alphen aan den Rijn,
17-2-2023

signature of the authorised person
Quality Control

dp pumps

Inspection report Booster set

Booster set model:	Item number:	Tested by:	Prod. week:	Report nr.:
HU 2 UL DPV 15/6 VC M		LeWe	7	

Rated power per pump: [kW]	Rated voltage: [V]	Phases:	Mains freq.: [Hz]	MCB pump: [A]	
5,5	400	3	50	14	2940

Set point: [kPa]	Suction head: [kPa]	Run dry protection type:	Standard unit:	Date of issue:	Checked by:
930	250	#N/B	Yes	17-2-2023	LeWe

Test results

1. Common data	OK	n.a.
Wiring diagram present:	☑	☐
Operating instructions present:	☑	☐

2. Check	OK	n.a.
Shut off head, per pump, according to list:	☑	☐
Non return valve, per pump:	☑	☐
Check unit specific parameters: dp-control III(+) + Frequency convertor	☑	☐
Rotating direction, per pump (motor), via all applicable power supplies: clockwise, seen from the fan hood	☑	☐
Values motor circuit breaker (MCB) according to motor/freq. converter data:	☑	☐
Activate the MCB's, one bij one, and check if the correct alarm contact/light will be activated:	☑	☐
Pressure test during 5 minutes with system pressure 1.5 x set point (100 kPa min.):	☑	☐
When run dry protection becomes active, the unit must shut down after the pre-set run dry delay:	☑	☐
Test of the Level Control, with respect to all levels stated below: - Low level alarm + reset - Valve open + closed - 30% alarm + reset - High level alarm	☐	☑
All markings and type plates applied:	☑	☐
All pipes sealed for transportation:	☑	☐

3.1 Pressure control check	OK	n.a.
Outlet-valve open: a pump is switched on immediately when reaching cut-in pressure; another pump starts when the start delay has been expired:	☑	☐
Outlet-valve closed: the pumps switch off when reaching the cut-out pressure and the minimum running time has been expired:	☐	☐

3.2 Frequency control (if applicable)	OK	n.a.
When, at an unspecified capacity, an increase or decrease of 50% of the capacity is simulated, the deviation of the desired value must stay within the required margin of 20 [kPa] within the set time (considering the pump delay / ramp up with larger pumps):	☑	☐

3.4 3.2 Inspection report

Following certificate is standard, type and/or order specific certificate which can by acquired by ordering the certificate of your choice at DP-Pumps. The certificate you will find in this document is an example of the possibilities what can be ordered at DP-Pumps. For prices of the required certificates please contact DP-Pumps or your local contact/supplier.

List of notified bodies

- DNV(Det Norske Veritas)
- ABS (American Bureau of Shipping)
- BV (Bureau Veritas)
- RINA ((Registro Italiano Navale)
- LR (Lloyd's Register EMEA)
- RMRS (Russian Maritime Register of Shipping)

The following example have been added to this document:

- Hydraulic, hydrostatic and vibrations inspection report and the DNV certificate.

dp pumps

INSPECTION REPORT 3.2

according to EN 10204:2004

We, the undersigned,

KSB Manufacturing Netherlands B.V.
Kalkovenweg 13
2401 LJ Alphen aan den Rijn
The Netherlands

certify and declare under our sole responsibility that the following product:

Vertical multi-stage centrifugal pump, type:
DPVSF 25/4 B 50Hz 2P

to which this certificate relates is in conformity with the following standard(s) or other normative document(s):

Hydraulic performance test number
0
according to the provisions of (when applicable):
ISO 9906:2012 (Grade 3B)

Hydrostatic test number

according to the provisions of (when applicable):
EN 809+A1/C1:2010, EN12162:2010 and DNV-RU-SHIP Pt.4 Ch.6-Piping Systems
DNV Manufacturing Survey Arrangement: MSA0000AWR
DNV Recognition Certificate MSARC0000BMZ
Vibration test number
0
according to the provisions of (when applicable):
ISO 10816-7:2009 (Category II)

KSB Manufacturing Netherlands B.V.
Alphen aan den Rijn

signature of the authorised person

Name:
Quality Control

dp pumps

HYDRAULIC testreport

Test/production nr:	Testdate:	Manufact. order number:	Customer/project:
	27-2-2023		

Pump model:	Freq./motorpoles:	Production wk/yr:	Standard:	Motor brand:	Motor serial nr.:
DPVSF 25/4 B	50Hz 2P	08/2023	Y	Hoyer	

Motor type:	Rated power: [kW]	Rated current: [A]	Maximum current: [A]	Rated voltage: [V]	Rated speed: [rpm]	Nr. of phases:
HMA3 132S2-2	75	13,70	13,70	400	2932	3

Test liquid:	Temperature: [°C]	Chloride level: [%]	Density: [kg/m3]	Vapour pressure: [Bar]
Water	18	0	1000	0.27

Guarantee point:

Requested	BEP	
	28,00	[m³/h]
	58,4	[m H2O]

Notes:

Testresults:

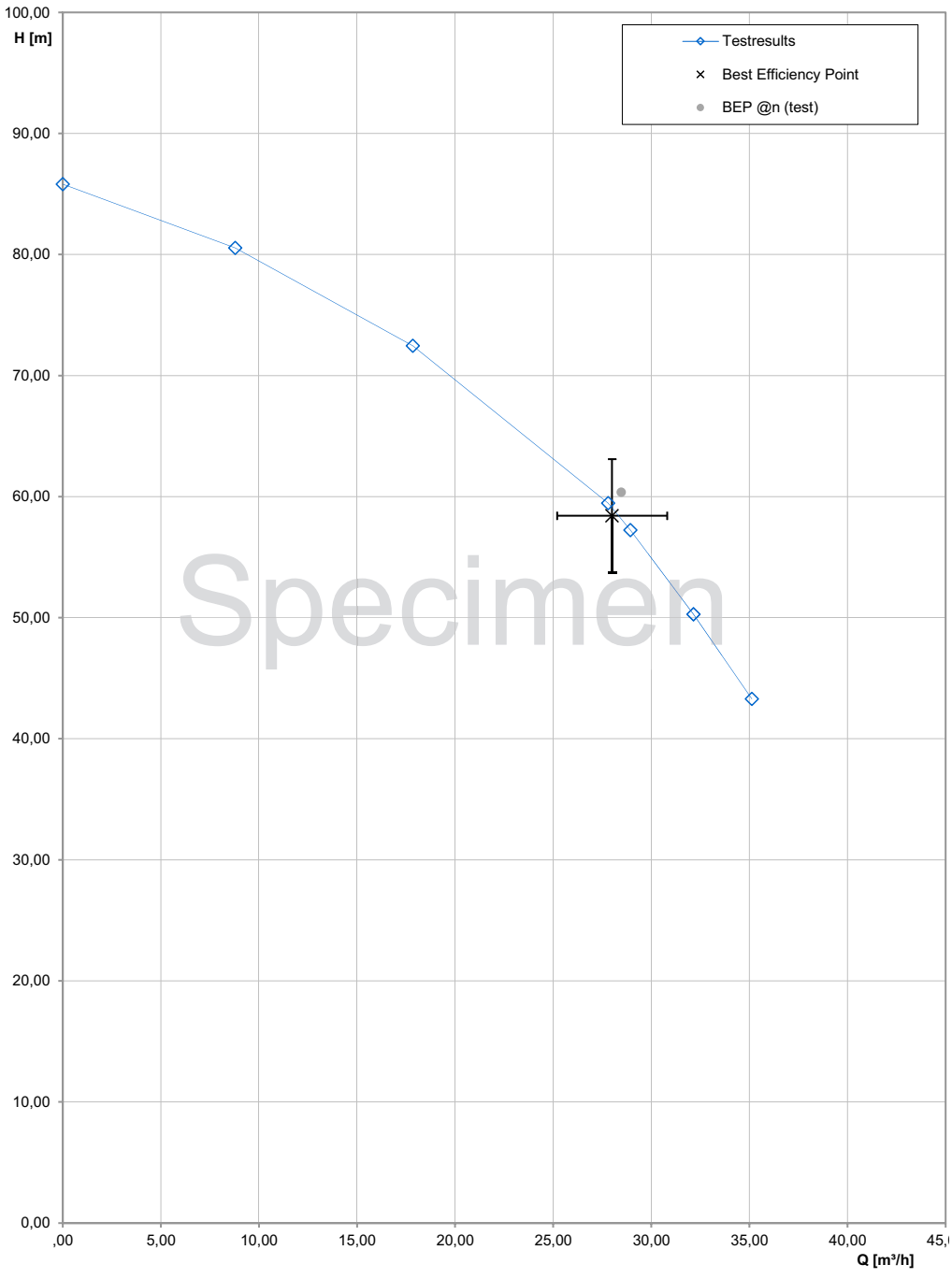
Nr.	Setpoint [m³/h]	Flow [m³/h]	Flow [l/s]	P1 [Bar]	P2 [Bar]	P [m H2O]	Current [A]	Speed [rpm]	Voltage [V]	Additional information
1	*(0)*	0,00	0,00	0,098	8,50	85,82	7,95	2971	400	
2	*(8,87)*	8,79	2,44	0,094	7,98	80,55	9,07	2964	400	
3	*(17,73)*	17,84	4,96	0,085	7,18	72,47	10,43	2956	400	
4	*(26,6-28)*	27,80	7,72	0,068	5,89	59,47	11,88	2948	400	
5	*(28-29,4)*	28,93	8,04	0,066	5,67	57,24	12,05	2947	400	
6	*(32,2)*	32,15	8,93	0,058	4,98	50,27	12,13	2948	400	
7	*(35)*	35,12	9,76	0,051	4,29	43,30	11,98	2950	400	
8										
9										
10										
11										

Date of issue:	Tested by:	Approved by:	Notified body:
	0		DNV

Purchase order number:

Tested in conformity with standard ISO 9906:2012 (Grade 3B)

DPVSF 25/4 B 50Hz 2P



dp pumps

HYDROSTATIC testreport

Test/production nr:	Testdate:	Manufact. order number:	Customer/project:
	27-2-2023		

Pump model:	Freq./motorpoles:	Production wk/yr:	Standard:	Motor brand:	Motor serial nr.:
DPVSF 25/4 B	50Hz 2P	08/2023	Y	Hoyer	

Motor type:	Rated power: [kW]	Rated current: [A]	Maximum current: [A]	Rated voltage: [V]	Rated speed: [rpm]	Nr. of phases:
HMA3 132S2-2	75	13,7	13,7	400	2932	3

Test liquid:	Temperature: [°C]	Chloride level: [%]	Density: [kg/m3]	Vapour pressure: [Bar]
Water	18	0	1000	0.27

Testresults:

Nr.	Pressure class:	Hydrostatic test pressure: P*1.5 [Bar]	Duration of test: [min]	Result:	Additional information:
1	PN10	15,0	5	Passed	

Notes:

Date of issue:	Tested by:	Approved by:	Notified body:
			DNV

Purchase order number:

Tested in conformity with standard EN 809+A1/C1:2010, EN12162:2010 and DNV-RU-SHIP Pt.4 Ch.6-Piping Systems.

dp pumps

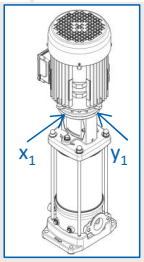
Testreport
Vibrations

Test/production nr:	Testdate:	Manufact. order number:	Customer/project:
0	27-2-2023	0	0

Pump model:	Freq./motorpoles:	Production wk/yr:	Standard:	Motor brand:	Motor serial nr.:
DPVSF 25/4 B	50Hz 2P	08/2023	Y	Hoyer	0

Motor type:	Rated power: [kW]	Rated current: [A]	Maximum current: [A]	Rated voltage: [V]	Rated speed: [rpm]	Nr. of phases:
HMA3 132S2-2	75	13,7	13,7	400	2932	3

Test liquid:	Temperature: [°C]	Chloride level: [%]	Density: [kg/m3]	Vapour pressure: [Bar]
Water	18	0	1000	0.27



Vibration limit:

Category II	POR	AOR	
RMS	4,20	5,10	[mm/s]

Notes:

POR = Preferred operation range

AOR = Allowed operation range

Testresults:

Nr.	Setpoint [m³/h]	Flow [m³/h]	Flow [l/s]	Range	RMS x_1	RMS y_1			Additional information
0	*(0)*	0,00	0,00	-	0,85	0,87			
1	*(8,87)*	8,79	2,44	AOR	0,77	0,80			
2	*(17,73)*	17,84	4,96	AOR	0,75	0,77			
3	*(26,6-28)*	27,80	7,72	POR	0,80	0,81			
4	*(28-29,4)*	28,93	8,04	POR	0,83	0,77			
5	*(32,2)*	32,15	8,93	POR	0,81	0,80			
6	*(35)*	35,12	9,76	AOR	0,77	0,71			

Date of issue:	Tested by:	Approved by:	Notified body:
	MaCa	MaCa	DNV

Purchase order number:

Tested in conformity with standard ISO 10816-7:2009 (Category II)

CERTIFICATE
FOR PUMP - CENTRIFUGAL

Certificate No:
N142K406

This is to certify

that the product:	**Vertical Multi Stage Centrifugal Pump (Example certificate for commercial use, see note on page 2)**
Type designation:	**DPVSF 25/4 B**
Application/context:	**Water**
Serial/tag no:	**1234567-8**

Has been found to comply with relevant requirements in:
DNV-RU-SHIP :Rules for classification: Ships (2022-07)

The product is intended for

Yard:	**-**
Yard No:	**-**
Name of vessel:	**M/V DNVGL / IMO: 987654321**
DNV Id No:	**-**

The product / material has been marked: Serialno + NV on: Pump Housing

Particulars of Vendor and Purchaser

Vendor:	**KSB Manufacturing Netherlands B.V.**
Vendor reference:	**6001XXXX**
Purchaser:	**KSB Manufacturing Netherlands B.V.**
Purchaser reference:	**Internal use only**

Issued at **Netherlands CMC** on **2023-03-15**

for **DNV**

This document has been digitally signed and will therefore not have handwritten signatures

van der Ven, Arjen
Surveyor

Certificate No: **N142K406**

Surveyor Supplementary information:

Important remark:
This is not a valid certificate, it is only generated for commercial purposes on request of KSB BV.

Product parameters:

Parameter name	Value	Unit
Rotational speed	2932	rpm
Input power	75	kW
Fluid type	Water	
Fluid density	1000	kg/m³
Fluid viscosity	1	cSt
Fluid temperature	18	°C
Pressure Class	PN10	
Delivery head required / BEP (*1)	29.32 / 28.0	m H2O
Capacity required / BEP (*1)	62.1 / 58.4	m3/hr
Testdate	2023-XX-XX	
Test pressure	15	Bar
Motorpoles / Phases	2 / 3	
Frequency	50	Hz
Voltage	400	V
Motor Type	HMA3 132S2-2	
Motor serialnumber	123	
Motor Brand	Hoyer	
Vibration Limit POR (*2) / MMV (*4)	4.2 / 0.83	mm/s
Vibration Limit AOR (*3) / MMV (*4)	5.1 / 0.80	mm/s

dp pumps

Kalkovenweg 13
2401 LJ Alphen aan den Rijn (NL)
t +31 172 48 83 88
www.dp.nl

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03/2023