

Pressure Booster System

Type Series Booklet Economy Line



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Contents

Building Services: Water Supply	4
Pressure Booster Systems	4
Economy Line	4
Main applications.....	4
Fluids handled	4
Operating data.....	4
Designation	4
Design details	4
Materials	5
Product benefits	5
Certifications	5
Selection information	6
Technical data	6
Selection charts	7
Dimensions	9
Accessories.....	11

Building Services: Water Supply

Pressure Booster Systems

Economy Line



Main applications

- Spray irrigation systems
- General irrigation systems
- Service water supply systems
- Domestic water supply
- Rainwater harvesting
- Water supply systems

Fluids handled

- Drinking water
- Service water
- Cooling water
- Fluids not chemically or mechanically aggressive to the materials

Operating data

Operating properties

Characteristic	Value	
Flow rate	Q [m ³ /h]	≤ 20
	Q [l/s]	≤ 5,6
Head	H [m]	≤ 53
Fluid temperature	T [°C]	≤ 40
Operating pressure	p [bar]	≤ 10

Designation

Example: HU2 DPHM6 /4 Economy Line WRAS/ACS

Designation key

Code	Description	
HU Economy Line	Type series	
2	Number of pumps	
DPHM6	Pump size DPHM(C)2, 4, 6	
/4	Number of pump stages 4, 6	
WRAS	Design	
	DE	Design approved for drinking water to DVGW
	WRAS/ACS	Design approved for drinking water to WRAS/ACS
	1)	Without drinking water certificate

Design details

System with drinking water certificate

Design

- Fully automatic pressure booster package system
- Either 1 or 2 horizontal centrifugal pumps with frequency inverters
- Baseplate-mounted
- Membrane-type accumulator (direct-flow) to DIN 4807-5 on the discharge side, approved for drinking water, with shut-off element and drain valve
- 1.5-metre power cable with shockproof plug (single-pump system)
- Check valve per pump
- Shut-off element upstream and downstream of each pump (two-pump system)
- Pressure gauge

Installation

- Stationary installation

Drive

- Single-phase input, three-phase motor (3~230 V)
- To IEC 60034-7
- Efficiency class IE3 to IEC 60034-30 (for three-phase motors ≥ 0.75 kW)
- Frequency 50/60 Hz (mains frequency)
- IP55 enclosure

Automation

- Frequency inverter for speed control, IP55, for pressure-controlled starting and stopping
- Function/fault indicated
- Pressure setting by keys
- Dry running protection

System without drinking water certificate

Design

- Fully automatic pressure booster package system

1) Blank

- Either 1 or 2 horizontal centrifugal pumps
- Baseplate-mounted
- Membrane-type accumulator (direct-flow) to DIN 4807-5 on the discharge side, approved for drinking water, with shut-off element and drain valve (two-pump system only).
- 1.5-metre power cable with shockproof plug (single-pump system)
- Check valve per pump
- Pressure gauge

Installation

- Stationary installation

Drive

- Single-phase motor (single-pump system), three-phase motor (two-pump system)
- To IEC 60034-7
- Efficiency class IE3 to IEC 60034-30 (for three-phase motors ≥ 0.75 kW)
- Frequency 50/60 Hz (mains frequency)
- IP55 enclosure

Automation

- Dry running protection

Single-pump systems

- Pressure-controlled starting and flow-controlled stopping

Two-pump systems

- Frequency inverter for speed control, IP55, for pressure-controlled starting and stopping
- Function/fault indicated
- Pressure setting by keys

Materials

Overview of available materials – with drinking water certificate

Component	Material
Pump	
Pump casing	Stainless steel
Pump shroud	Stainless steel
Hydraulic system	Stainless steel
Sealing element	EPDM
Plain bearing	Aluminium oxide
Mechanical seal	To EN 12756
Primary ring	Silicon carbide
Mating ring	Hard carbon
Elastomer	EPDM

Component	Material
Accumulator	Connection made of stainless steel, flow through valve to DIN 4807-5
Membrane	Approved for drinking water
Piping	Stainless steel
Baseplate and support	Steel, powder-coated
Electrical connection box	Plastic

Overview of available materials – without drinking water certificate



Component	Material
Pump	
Pump casing	Grey cast iron
Pump shroud	Stainless steel
Hydraulic system	Stainless steel
Sealing element	EPDM
Plain bearing	Aluminium oxide
Mechanical seal	To EN 12756
Primary ring	Silicon carbide
Mating ring	Hard carbon
Elastomer	NBR
Accumulator	Connection made of stainless steel, flow through valve to DIN 4807-5
Membrane	Approved for drinking water
Piping	Galvanised steel
Baseplate and support	Steel, powder-coated
Electrical connection box	Plastic

Product benefits

- Plug-and-play design for straightforward commissioning
- Very compact, space-saving design
- Energy-efficient operation and constant pressure ensured by speed control of all pumps.
- Corrosion resistance provided by powder-coated materials and stainless steel
- Integral dry running protection for reliable operation

Certifications

Overview

Label	Effective in:	Comment
	France	For material variant cast stainless steel
	United Kingdom	For material variant cast stainless steel

Selection information

- Inlet pressure: 1 bar

Selection example

Requirements:

Specified duty point at:

- Flow rate: 4 m³/h
- Head: 50 m

Solution:

1. The inlet pressure of 1 bar (approx. 10 m) results in a required head of 40 m.
The values are transferred to the selection chart to select the most suitable pump.

⇒ It is a HU2 DPHM4 /4 B Economy Line WRAS/ACS

Technical data

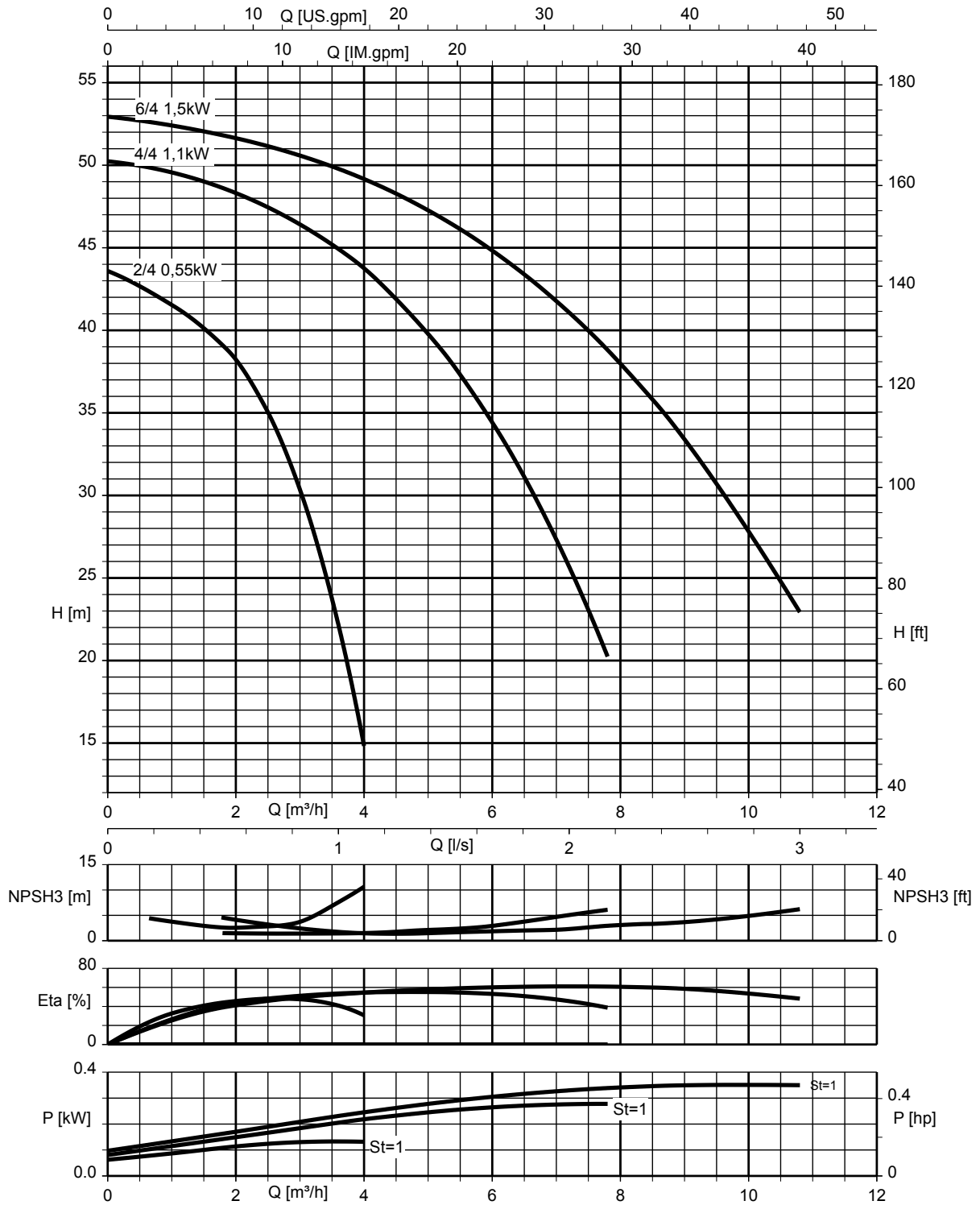
Selection table

Size	Nominal voltage	Mains frequency	Nominal power	Nominal current	Mat. No.	[kg]
	[V]	[Hz]	[kW]	[A]		
HU1 DPHMC2 /4	1~230	60	0,55	3,9	HU1B2408BH6M	35
HU1 DPHMC4 /4	1~230	60	1,1	6,7	HU1B4408BH6M	39
HU1 DPHMC6 /4	1~230	60	1,5	9,9	HU1B6408BH6M	42
HU1 DPHMC2 /6	1~230	50	0,55	3,9	HU1B2608BH6M	36
HU1 DPHMC4 /6	1~230	50	1,10	7,1	HU1B4608BH6M	40
HU1 DPHMC6 /6	1~230	50	1,5	9,4	HU1B6608BH6M	43
HU1 DPHM2 /4 WRAS/ACS/DE	1~230	50/60	0,55	8	HU1A2401BV5M	44
HU1 DPHM4 /4 WRAS/ACS/DE	1~230	50/60	1,1	8	HU1A4401BV5M	45
HU1 DPHM6 /4 WRAS/ACS/DE	1~230	50/60	1,5	11	HU1A6401BV5M	48
HU2 DPHM2 /4 WRAS/ACS	1~230 / 3~400+N	50/60	0,55	16 / 8	HU2A2401DV5M	65
HU2 DPHM4 /4 WRAS/ACS	1~230 / 3~400+N	50/60	1,1	16 / 8	HU2A4401DV5M	73
HU2 DPHM6 /4 WRAS/ACS	1~230 / 3~400+N	50/60	1,5	22 / 11	HU2A6401DV5M	79
HU2 DPHM2 /4 DE	1~230 / 3~400+N	50/60	0,55	16 / 8	HU2A2401DV5V	65
HU2 DPHM4 /4 DE	1~230 / 3~400+N	50/60	1,1	16 / 8	HU2A4401DV5V	73
HU2 DPHM6 /4 DE	1~230 / 3~400+N	50/60	1,5	22 / 11	HU2A6401DV5V	79
HU2 DPHMC2 /4	1~230 / 3~400+N	50/60	0,55	16 / 8	HU2A2408DV5M	65
HU2 DPHMC4 /4	1~230 / 3~400+N	50/60	1,1	16 / 8	HU2A4408DV5M	73
HU2 DPHMC6 /4	1~230 / 3~400+N	50/60	1,5	22 / 11	HU2A6408DV5M	79



Selection charts

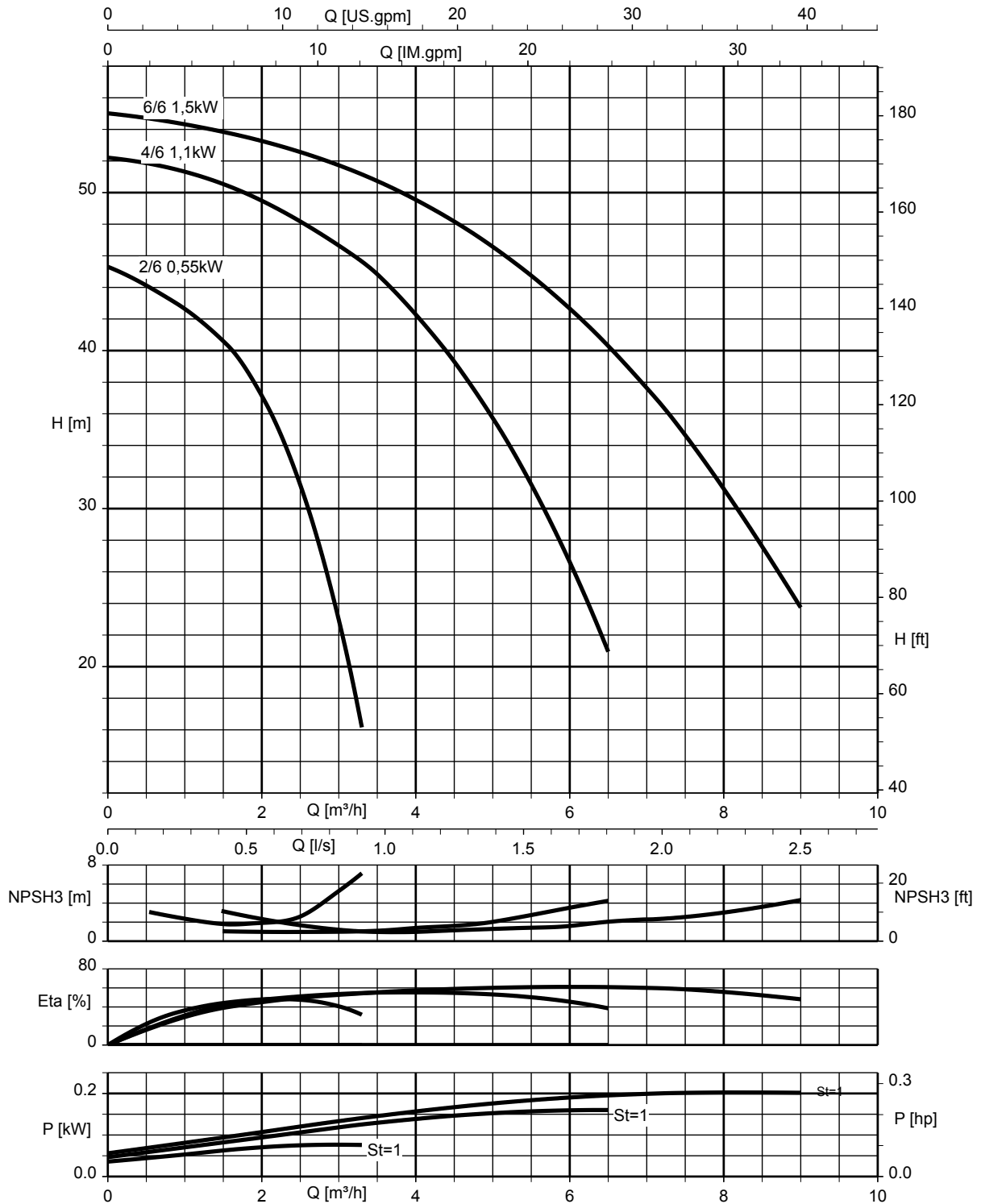
Economy Line 2/4 / 4/4 / 6/4, n ≈ 3500 rpm



St = 1 | P per stage



Economy Line 2/6 / 4/6 / 6/6, n ≈ 2900 rpm



St = 1 | P per stage

Dimensions

Economy Line

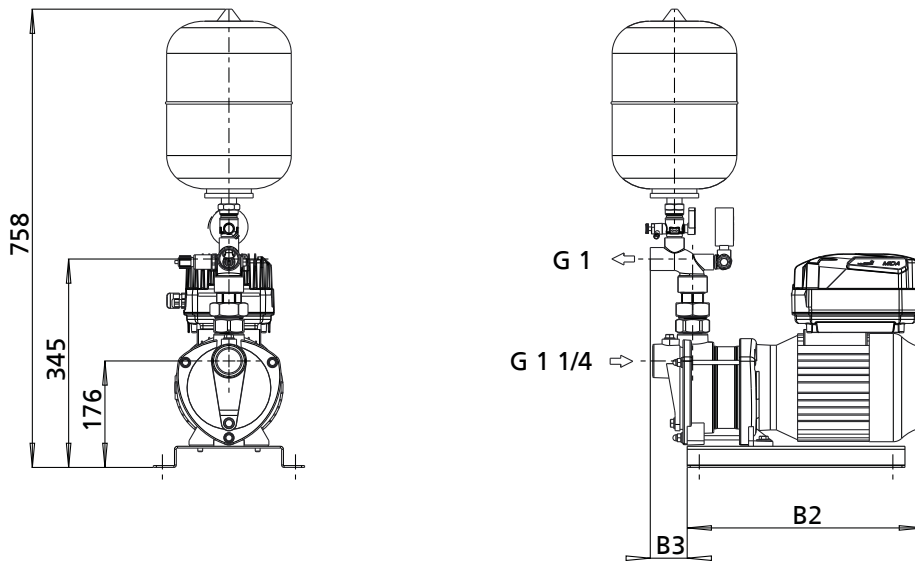


Fig. 1: Single-pump system approved for drinking water (WRAS/ACS/DE)

Dimensions [mm]

Size	Mat. No.	B2	B3
HU1 DPHM2 /4 WRAS/ACS/DE	HU1A2401BV5M	351	47
HU1 DPHM4 /4 WRAS/ACS/DE	HU1A4401BV5M	395	47
HU1 DPHM6 /4 WRAS/ACS/DE	HU1A6401BV5M	391	57

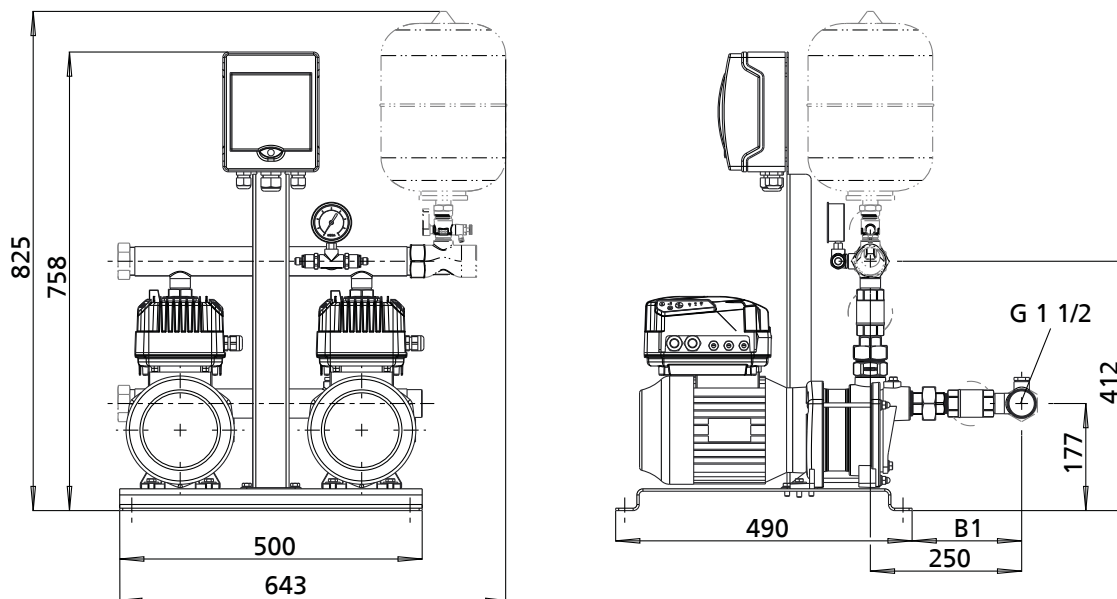


Fig. 2: Two-pump system approved for drinking water (WRAS/ACS/DE)

Dimensions [mm]

Size	Mat. No.	B1
HU2 DPHM2 /4 WRAS/ACS	HU2A2401DV5M	171
HU2 DPHM4 /4 WRAS/ACS	HU2A4401DV5M	171
HU2 DPHM6 /4 WRAS/ACS	HU2A6401DV5M	182
HU2 DPHM2 /4 DE	HU2A2401DV5V	171
HU2 DPHM4 /4 DE	HU2A4401DV5V	171
HU2 DPHM6 /4 DE	HU2A6401DV5V	182

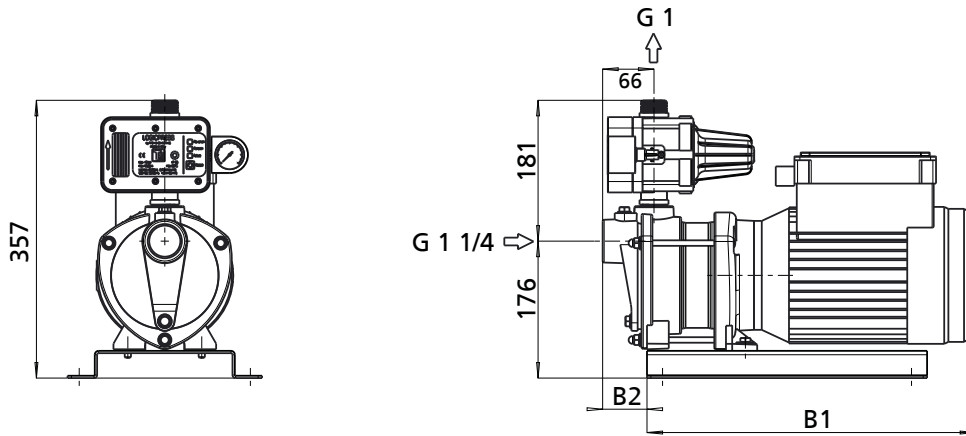


Fig. 3: Single-pump system not approved for drinking water

Dimensions [mm]

Size	Mat. No.	B1	B2
HU1 DPHMC2 /6 50Hz	HU1B2608BH6M	409	40
HU1 DPHMC4 /6 50Hz	HU1B4608BH6M	434	40
HU1 DPHMC6 /6 50Hz	HU1B6608BH6M	473	57
HU1 DPHMC2 /4 60Hz	HU1B2408BH6M	348	57
HU1 DPHMC4 /4 60Hz	HU1B4408BH6M	373	57
HU1 DPHMC6 /4 60Hz	HU1B6408BH6M	423	57

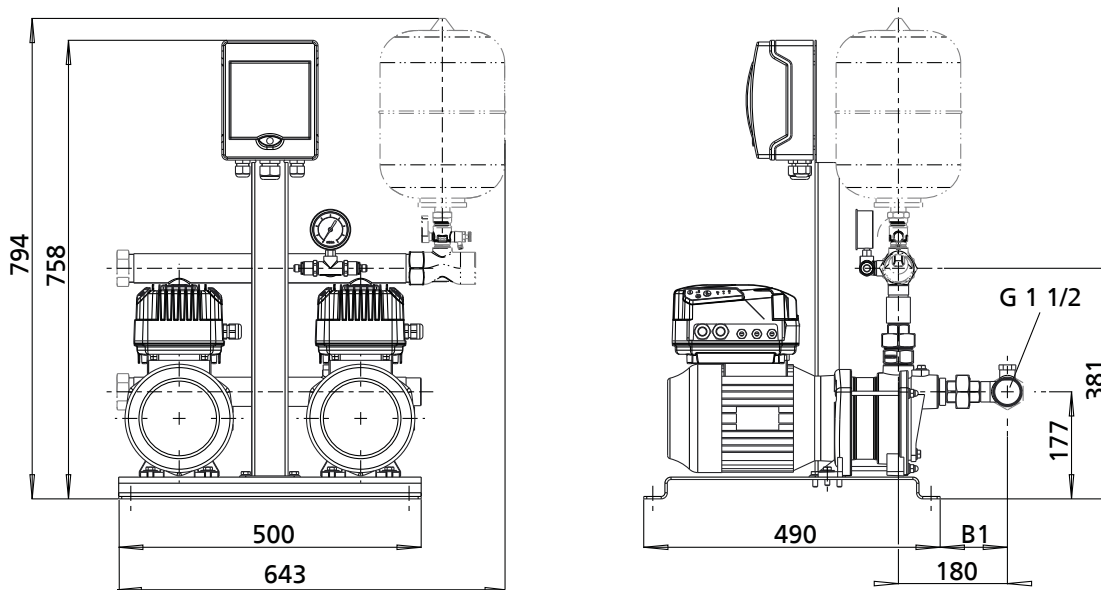


Fig. 4: Two-pump system not approved for drinking water

Dimensions [mm]

Size	Mat. No.	B1
HU2 DPHMC2 /4	HU2B2408DV5M	171
HU2 DPHMC4 /4	HU2B4408DV5M	171
HU2 DPHMC6 /4	HU2B6408DV5M	182



Accessories

Dry running protection

Dry running protection by pressure switch

Description		Mat. No.
Dry running protection by pressure switch in suction line, to NEN1006		
	Single-pump system	OV10023116
	Two-pump system	OV10023117

DP Pumps

P.O. Box 28
2400 AA Alphen aan den Rijn
The Netherlands

t (0172) 48 83 88
f (0172) 46 89 30

dp@dp-pumps.com
www.dp-pumps.com

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97004515 (1978.560/04-EN)

