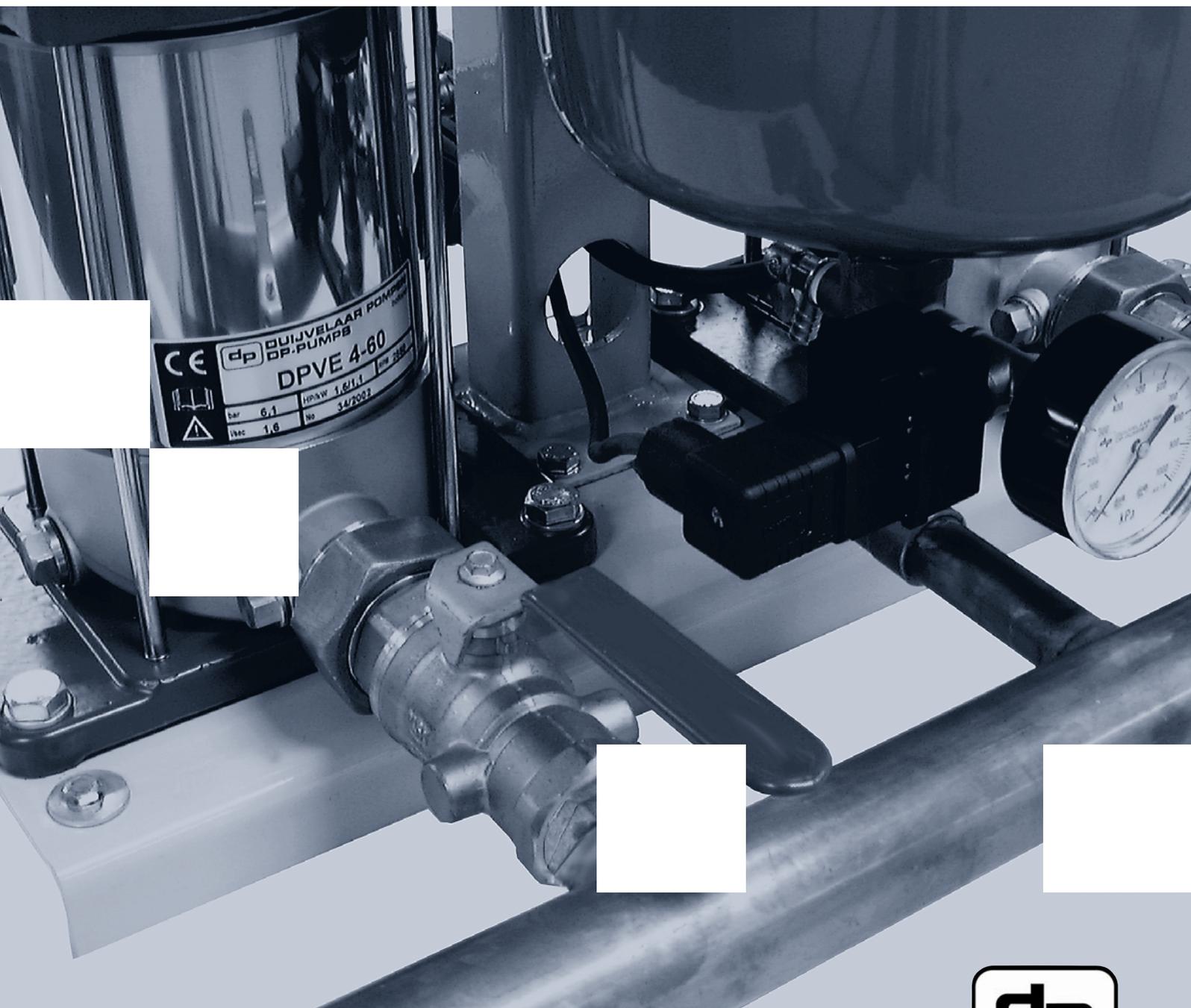


hydro unit booster systems

dp pumps



■ technical data



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dp pumps is ISO-9001
and ISO-14001 certified.



Clean water:

Booster systems: high-tech solutions

■ Transparency with Stainless Steel



DP Pumps is market leader in the market of booster systems and has been for quite some time. By means of innovative, customized solutions.

From our service organisation we have a continuous feedback.

This, combined with optimal commitment of the employees and the natural urge to continuously improve, makes the booster systems very reliable and service friendly.

Compact assembly

Building costs and exploitation costs of high-rises are constantly increasing and the volume of technical areas in buildings are decreasing because of this.

As market leader in the booster systems we have defined a new standard, as of today:

The compact Hydro-Unit with the new DPVE vertical pump.

The complete unit is compact and service friendly.

No corrosion means cleaner water

A large part of the distribution of our potable water is done by booster systems, which up to now were exclusively done by pumps, partially made of cast iron.

Cast iron corrodes and will therefore, specially after a period of inactivity, introduce calcium and rust into the water.

transparency with Stainless Steel



Because all wetted parts of the DPV(S) pumps are fabricated in stainless steel, this problem does not exist any more.

Tailor made units

Besides our standard program we can of course be of service with advice and the design of customized installations. Our technical advisors and engineers are at your disposal.

FEATURES

Controls

- DP-Control for standard operation
- Megacontrol for comfort enhancement and process optimization.
- Frequency converter for modulating operation.
- Pico-server for optimized telemetry



Basic configurations

- HU+plus+ for maximum energy savings and limitation of switching differential.
- Frequency control for process optimization or system pressure stabilization.
- Level control for an integral process control.



FEATURES



The "new standard" is a complete booster system in accordance with all relevant demands of NEN1006 and VEWIN.

Through the use of standard modular assembly of the installation, it is expandable with all available options, to an installation, which is completely in agreement with the demands of the end-user.

- according to process specifications for the industry.
- according to comfort specifications for the building industry.



DP control units: Optimized control, simple application

DP-Control®

Hydro-Unit® HU DPC

Our DP-Control is used in (standard) booster systems equipped with 2 or 3 pumps. The control and the accessibility of the program have been set to the basic functions: the DP-Control is not equipped with a display but uses a number of LEDs that indicate the status of the unit without having any specialized know-



ledge of the program or the control. The error signalization is very simple; it has been divided into two separate signals:

'urgent' and 'not urgent'. Errors that reset themselves and errors of components of which there are more than one (e.g. an error of the spare pump) are indicated as "'not urgent'.

The DP-Control can be equipped with an RS232-port so that you may receive more detailed information when errors indications or status controls are required. Errors, status and control will be indicated by completely defined codes.

By means of the membrane switches on the DP-Control, pumps can be tested and the status of the pump can be defined (manual-off-automatic).

Megacontrol®

Hydro-Unit® HU MC

The Megacontrol is developed for the electronic control of a (standard) booster system equipped with 1 up to 6 pumps.

The Megacontrol has extensive possibilities for control and signalization of:

- the existing pressures and levels
- the pump(s)
- the frequency converter
- the level in the buffer tank and the control of the inlet valve (valve open/shut or in a proportional position)
- the status of the installation
- the inlet pressure



In this control module, only the basic operations are pre-set. At location the parameters of the system will be set to the specific situation. Via the keyboard and display all the variable configurations and parameters are changeable. By means of passwords, these values are secured at three different levels against 'trespassers'.

Installation variables: no situation is the same

HU1
MCF
MCJ

Hydro-Unit® HU1

1-pump control

The HU1 is a booster system with only a single pump. In certain cases it is permissible to install a booster system without a spare pump. The 1-pump control of the Hydro-Unit HU1 is only meant to lengthen the life cycle of the installation, as opposed to the advanced control in the DP-Control and Megacontrol.

Hydro-unit® HU MCF

Hydro-Unit with Megacontrol and frequency converter

This Hydro-Unit booster system is equipped with pumps with a standard IEC motor. By means of a frequency converter one of the pumps will have its speed controlled. This offers the following advantages:

- a saving of costs through lower energy consumption
- useable when the inlet pressure supplied by the water company varies greatly
- an extremely constant system-pressure

The Hydro-Unit HU MCF is equipped with the Megacontrol module. At the pressure side of the installation, a pressure transmitter is installed which offers an analogue signal to the Megacontrol to indicate the system pressure. If this deviates from the set pressure, the speed of the pump is automatically adjusted. The reaction speed, as well as the precision of the control of the pump speed is done by means of a P.I.D. control. This is integrated in the software of the Megacontrol processor. The processor defines which pump will be adjusted and which pump will be set at a fixed speed, all simultaneously.

Hydro-Unit® HU MCJ

Hydro-Unit with Megacontrol and jockey pump

The HU MCJ booster system is suitable for applications with extreme capacity fluctuations. This system is equipped with a jockey pump. It is also possible to add a spare jockey pump. The jockey pump is a smaller pump with a lower capacity but with the same head of pressure as the main pumps in the installation.

One pressure transmitter controls all the pumps. The jockey pump is started first to supply the regular water consumption. When the water consumption surpasses the capacity of the jockey pump, one or more of the main pumps will start automatically. The jockey pump is shut down simultaneously. If the water consumption reduces again, the main pumps will shut down and the jockey pump takes over again.

The selection of the jockey pump is based upon the expected capacity during the so-called 'low consumption hours'. The main pumps are selected for the capacity and pressure necessary during the 'high consumption hours'. The number of pumps in the installation dividing the total volume, is based upon the capacity and the requested reliability of the system.

Telemetry: distance is no problem

Pico-Server

Telemetry module for internet.

The in-house developed telemetry module: the Pico-Server.

By means of any PC, via the Internet or LAN, it is possible to access a booster system with Megacontrol remotely (anywhere in the world). This makes the control and set-up of a system simple. Through looking at the graphic visualization of the trends, the status of the installation can be made totally visual:

- system pressure
- inlet pressure
- level in the tank
- pump power output
- position of the filling valve

The Pico-server allows more things to be controlled remotely:

- visualization and alteration of the configuration
- downloading log files
- treatment of errors.



Technical specifications

The Pico-Server is a complete Internet server based on a Pentium 586 single board PC. We deliver the

Pico-Server complete with powersupply, modem (or LAN-connector) and RS 232-connector to the Megacontrol.

The whole unit is built into an industrial housing. There are no minimal specifications for the Internet PC (an internet browser should be installed).

The complete application software is generated by the PICO, you don't have to install anything.

Palm

Controlling the Megacontrol by PALM top.

The control module Megacontrol has a standard communications port through which information can be exchanged.

This exchange of data can be used to control the installation with a hand-held, the PALM top.

With the PALM-top you can:

- set up the Megacontrol easily
- memorise the set-up for multiple systems
- search for errors rapidly by using simple test functions
- generate graphs
- lookup error data

The biggest advantage of the PALM top is the visualization, possible through the graphic display.

Also much attention has been given to the menu-driven functions, of which high user friendliness is the result. On the graphic display of the PALM top many characters can be visualized. This makes it possible for the PALM top to function in a non-western language.



PALM-software

The accompanying PALM software enhances the control and test functions of the Megacontrol.

The large display makes the parameter menu very clear and all parameter settings of the various locations can

be stored and loaded from the PALM memory. Lots of time can be saved because one can intervene directly on the Megacontrol outputs for simple field-tests and simulations. The program is, as usual with PALM software, very compact (programmed in C) and can be sent easily by using e-mail.



MODEL KEY

HU	1	DPV 4-30	NO	5/4"	Ø 35	
HU	2	DPVE 2-40	DPC	1"	Ø 35	
HU	4	DPV 18-60	MCF	2"	Ø 80	
HU	unit type HYDRO-UNIT					
	2	number of pumps				
		DPV 18-60	pump types			
			N	standard version		
			DPC	controlled by DP-Control		
			MC	controlled by Megacontrol		
			MCF	controlled by Megacontrol and frequencyconverter		
			MCJ	controlled by Megacontrol and Jockey pump		
				2"	shut-off-and non-return valves	
					Ø 80	header

ECO HYDRO

Eco Hydro-Unit

Hydro-Unit with 1 pump, type DPV 2 or DPV 4 suitable for drinking water. Installed with pressure / flow control.

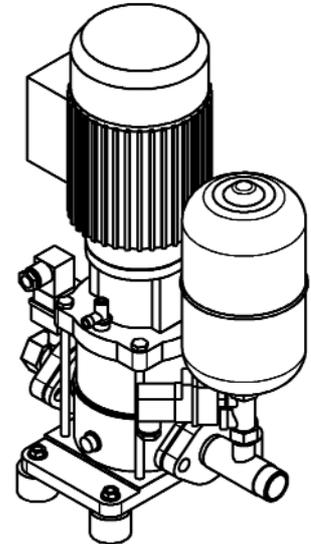
The Hydro Unit booster set is a high grade product, with all wetted parts made of non-corrosive materials. The installation is completely pre-fabricated, wired, pre-adjusted, factory tested and ready for use.

Construction:

Unit specially constructed for drinking water applications.

Options:

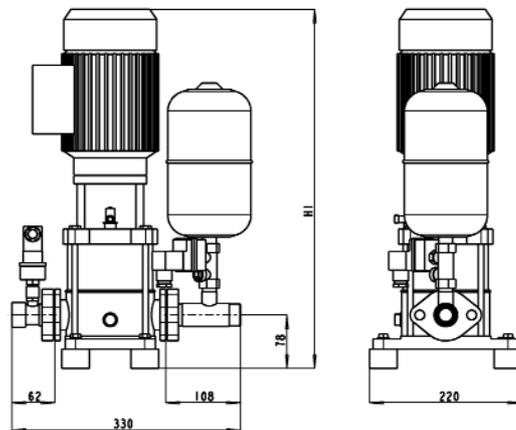
- Different voltages, protection classes, specifications of materials for pumps, valves and manifolds.
- Control systems and numbers of pumps customer specified.



Specifications:

Vertical multistage centrifugal pump, type DPV2 or DPV4, with built-in thermal protection switch with manual reset.
 Low pressure protection switch with manual reset.
 Throttle valve control with the following functions:

- immediate cut-in at pressure drop
- delayed switch-off at pressure rise



		A	V	H1
HU1	DPV2-20	MS R1"	AISI304 R1"	479
HU1	DPV2-30	MS R1"	AISI304 R1"	500
HU1	DPV2-40	MS R1"	AISI304 R1"	545
HU1	DPV2-50	MS R1"	AISI304 R1"	566
HU1	DPV4-20	MS R1"	AISI304 R1"	479
HU1	DPV4-30	MS R1"	AISI304 R1"	524

MS = Brass
 AISI304 = Stainless steel 304
 A = Fittings
 V = Piping



Hydro-Unit

Hydro Unit with 1 pump and membrane tank, suitable for drinking water.

Installed with time dependant pressure control.

The Hydro Unit booster set is a high grade product, with all wetted parts made of noncorrosive materials.

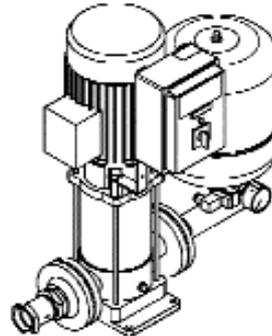
The installation is completely pre-fabricated, wired, preadjusted, factory tested and ready for use.

Construction:

Unit specially constructed for drinking water applications.

Options:

- Different voltages, protection classes, specifications of materials for pumps, valves and manifolds.
- Control systems and numbers of pumps customer specified.



Specifications:

Vertical multistage centrifugal pump, type DPV.

One spring-loaded non-return valve and one shut-off valve.

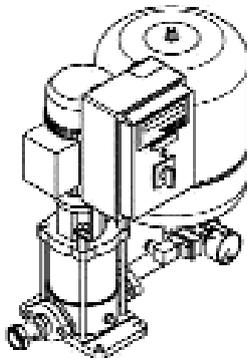
Membrane tank suitable for drinking water.

Pressure reference switch with 30kPa (4.35psi) differential.

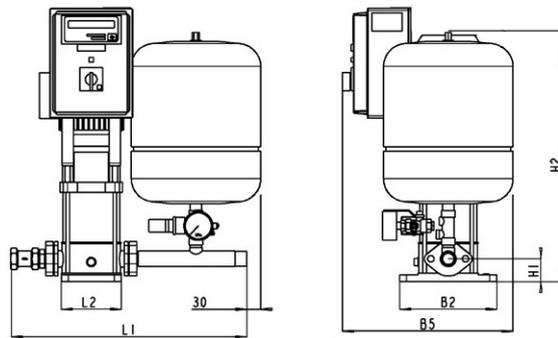
Pressure gauge, classe 1.6.

The control panel has the following functions:

- Thermal motor protection switch
- Manual-0-automatic switch
- Run-dry protection
- Failure indication "thermally-off" and "no water"
- Adjustable run-on time



HU 1 N

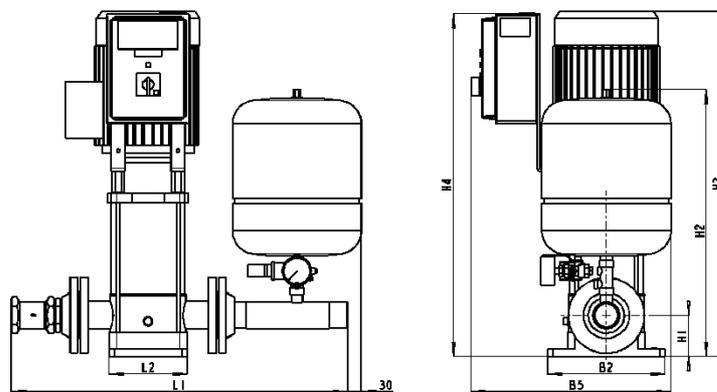


		A	V	L1	L2	L3	B1	B2	B4	B5	H1	H2
HU1	DPV2	MS R1"	AISI316 R1"	491	150	---	---	230	---	394	50	530
HU1	DPV4	MS R5/4"	AISI316 R5/4"	502	150	---	---	230	---	394	50	540
HU1	DPV10	MS R6/4"	AISI316 R6/4"	556	190	---	---	266	---	463	80	580
HU1	DPV14	MS R5/4"	AISI316 R5/4"	576	190	---	---	266	---	463	80	570
HU1	DPV18	MS R2"	AISI316 R2"	596	190	---	---	266	---	463	80	590

MS = Brass
 AISI316 = Stainless steel 316
 A = Fittings
 V = Piping



HU 1 N



	A	V	L1	L2	L3	B1	B2	B4	B5	H1	H2
HU1	DPVF18 MS R2"	AISI316 R2"	708	190	---	---	250	---	463	90	600

MS = Brass
 AISI316 = Stainless steel 316
 A = Fittings
 V = Piping

HU DPC

HYDRO-UNIT

Booster system with 2 or 3 pumps provided with DP-Control.

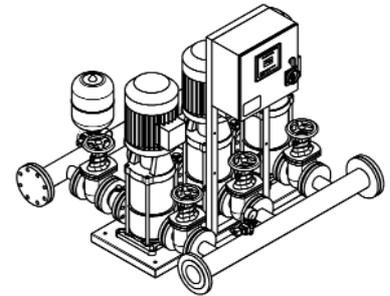
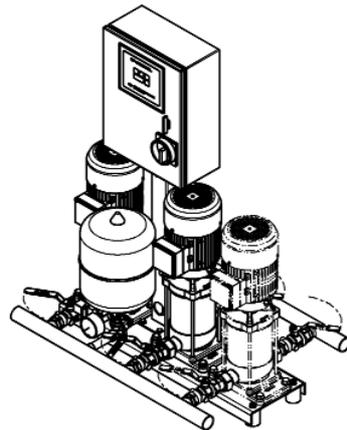
The Hydro Unit booster set is a high grade product, with all wetted parts made of non-corrosive materials. The installation is completely pre-fabricated, wired, preadjusted, factory tested and ready for use.

Construction:

Unit specially constructed for drinking water applications.

Options:

- Control panel equipped with tensionfree contacts for error reporting, divided into "urgent" and "non- urgent"
- Different voltages, protection classes, specifications of materials for pumps, valves and manifolds.
- Control systems and numbers of pumps customer specified.



Specifications:

Vertical multistage centrifugal pumps, type DPV.

Per pump one spring-loaded check-valve and two shut-off valves.

Headers for parallel configuration of the pumps.

Membrane tank suitable for drinking water.

Pressure reference switch with 30kPa (4.35psi) differential.

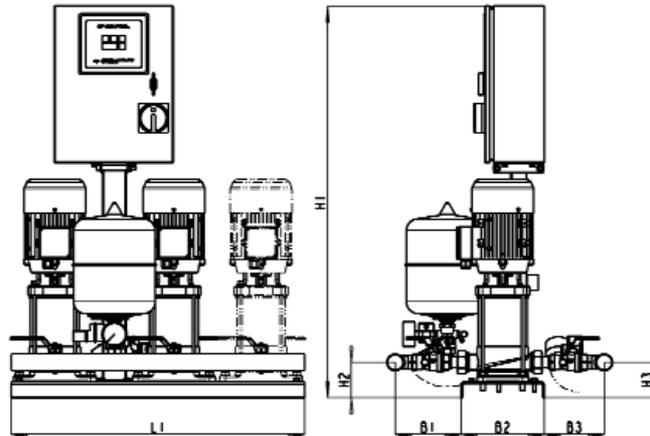
Pressure gauge, class 1.6.

The complete unit mounted on an epoxy covered base-plate.

The control panel has the following functions:

- door-interlocked mains switch
- thermal motor protection switches
- DP-Control microprocessor control module with the following basic functions:
 - optimized pump change-over
 - automatic optimizing run-on time
 - 24-hours exercise run
 - adjustable delay of run-dry protection
- LED indication:
 - pump on (per pump)
 - pump failure (per pump)
 - power available / pumps on stand-by

HU 2/3 DPVE 2/4 DPC

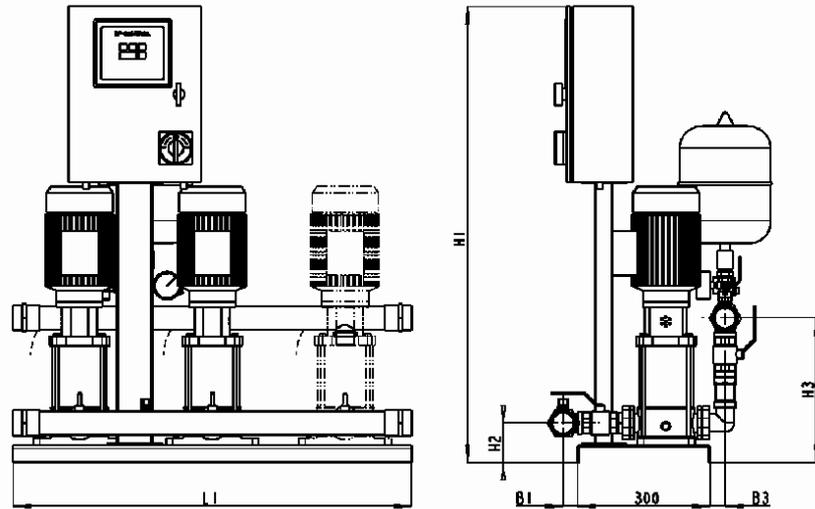


		A	V		H1	H2	H3	L1	B1	B2	B3
HU	2	DPVE2	MS R1"	Cu 35mm	998	90	90	520	163	210	148
HU	2	DPVE4	MS R1"	Cu 35mm	998	90	90	520	163	210	148
HU	2	DPVE4	MS R1"	Cu 42mm	998	90	90	520	166	210	151
HU	3	DPVE2	MS R1"	Cu 42mm	998	90	90	740	166	210	151
HU	3	DPVE4	MS R1"	Cu 42mm	998	90	90	740	166	210	151
HU	3	DPVE4	MS R1"	Cu 54mm	998	90	90	740	172	210	157

MS = Brass
 Cu = Copper
 A = Fittings
 V = Piping

Dimensional sketch for Hydro-Unit booster set, equipped with 2 or 3 pumps, type DPVE 2 with motors up to and including 0,75kW (1,0HP). DPVE 4 with motors up to and including 1,1kW (1.5HP).

HU 2/3 DPV 2/4/10/14/18 DPC



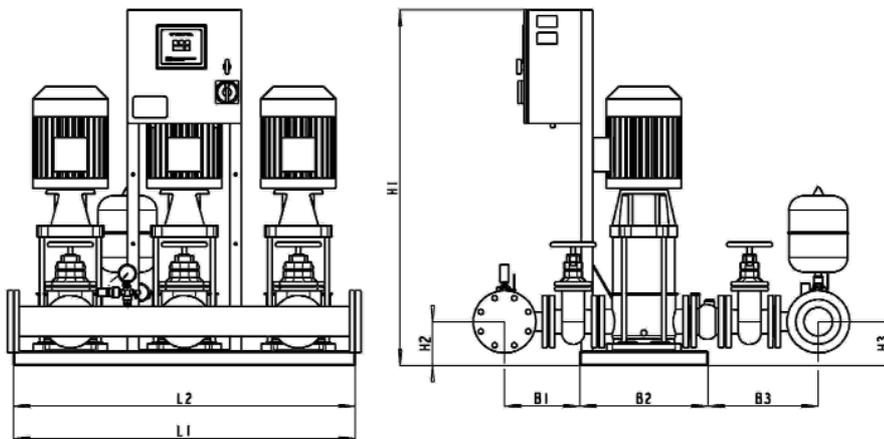
		A	V	H1	H2	H3	L1	B1	B2	B3
HU 2	DPV2	MS R1"	Cu 35mm	1050	90	390	600	31	300	43
HU 2	DPV2	MS R5/4"	Cu 42mm	1050	90	416	600	58	300	38
HU 2	DPV4	MS R1"	Cu 35mm	1050	90	390	600	31	300	43
HU 2	DPV4	MS R5/4"	Cu 42mm	1050	90	416	600	58	300	38
HU 2	DPV10	MS R5/4"	Cu 42mm	1050	120	446	600	87	300	67
HU 2	DPV10	MS R6/4"	Cu 54mm	1050	120	487	600	116	300	77
HU 2	DPV14	MS R1"	Cu 35mm	1050	120	420	600	60	300	72
HU 2	DPV14	MS R5/4"	Cu 42mm	1050	120	446	600	87	300	67
HU 2	DPV14	MS R6/4"	Cu 54mm	1050	120	487	600	116	300	77
HU 2	DPV18	MS R2"	Cu NW65	1250	120	565	600	137	300	71
HU 3	DPV2	MS R1"	Cu 42mm	1050	90	393	900	34	300	43
HU 3	DPV2	MS R5/4"	Cu 54mm	1050	90	422	900	64	300	38
HU 3	DPV4	MS R1"	Cu 42mm	1050	90	393	900	34	300	43
HU 3	DPV4	MS R5/4"	Cu 54mm	1050	90	422	900	64	300	38
HU 3	DPV10	MS R5/4"	Cu 54mm	1050	120	452	900	93	300	67
HU 3	DPV10	MS R6/4"	Cu NW65	1050	120	494	900	123	300	77
HU 3	DPV14	MS R1"	Cu 42mm	1050	120	423	900	63	300	72
HU 3	DPV14	MS R5/4"	Cu 54mm	1050	120	452	900	93	300	67
HU 3	DPV14	MS R6/4"	Cu NW65	1050	120	494	900	123	300	77
HU 3	DPV18	MS R2"	Cu NW80	1250	120	565	900	150	300	71

MS = Brass
 Cu = Copper
 A = Fittings
 V = Piping

Dimensional sketch for Hydro-Unit booster set, equipped with 2 or 3 pumps, type DPV 2, 4, 10, or 18 with motors up to 2,2kW (3.0HP). DPV 14 equipped with motor up to 1,5 kW (2.0HP).



HU 2/3 DPV 24/32/45 DPC



			A	V	H1	H2	H3	L1	B1	B2	B3
HU	2	DPVF24	GY NW65	Cu NW80	1250	155	155	800	251	450	374
HU	2	DPVF32	GY NW65	Cu NW80	1250	155	155	800	251	450	374
HU	2	DPVF45	GY NW80	Cu NW100	1250	155	155	800	274	450	417
HU	3	DPVF24	GY NW65	Cu NW100	1250	155	155	1200	264	450	387
HU	3	DPVF32	GY NW65	Cu NW100	1250	155	155	1200	264	450	387
HU	3	DPVF45	GY NW80	Cu NW125	1250	155	155	1200	287	450	431

GY = Cast iron
 Cu = Copper
 A = Fittings
 V = Piping

Dimensional sketch for Hydro-Unit booster set,
 equipped with 2 or 3 pumps, type DPVF 24, 32 or
 45 with motors up to and including
 7,5kW (10.1HP).

HU 2/3/4/.. MC

Hydro-Unit

Booster system with 2, 3 or 4 pumps provided with Megacontrol.

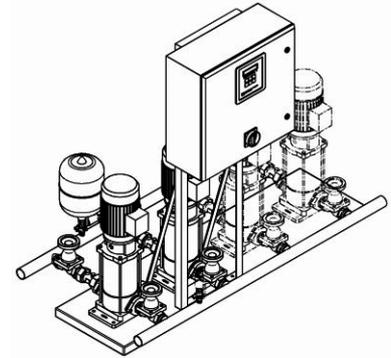
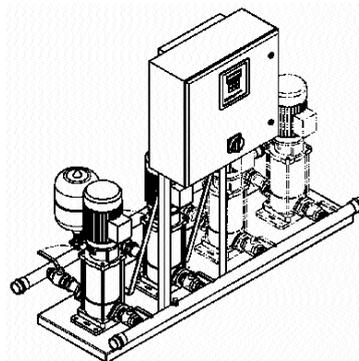
The Hydro Unit booster set is a high grade product, with all wetted parts made of non-corrosive materials. The installation is completely pre-fabricated, wired, preadjusted, factory tested and ready for use.

Construction:

Unit specially constructed for drinking water applications.

Options:

- Control panel equipped with tensionfree contacts for error reporting, divided into "urgent" and "non- urgent"
- Different voltages, protection classes, specifications of materials for pumps, valves and manifolds
- Control systems and numbers of pumps customer specified.



Specifications:

Vertical multistage centrifugal pumps, type DPV.

Per pump one spring-loaded check-valve and two shut-off valves.

Headers for parallel configuration of the pumps.

Membrane tank suitable for drinking water.

Analogue pressure sensor for system pressure.

The complete unit mounted on an epoxy covered base-plate.

The control panel has the following functions:

- Door-interlocked mains switch
- Thermal motor protection switches

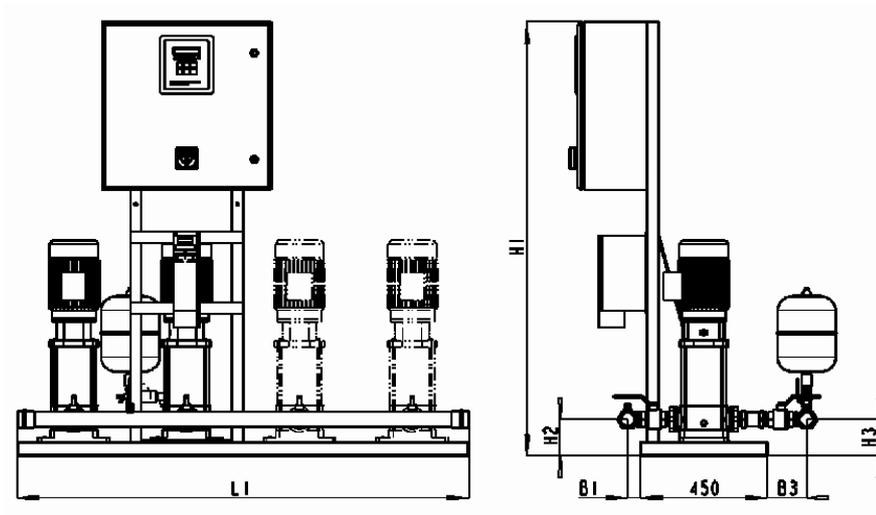
Megacontrol microprocessor control module

with the following basic functions:

- Optimized pump change-over
- Continuously optimized pump run-on timer
- Adjustable system pressure-loss correction factor
- 24-hours exercise run
- Adjustable delay of run-dry protection
- Text display:
 - actual system values (system-pressure, pump load and water supply info)
 - pump status (automatic, manual and disabled)
 - run time (per pump)
 - complete error interface (with help text)
 - easy parameter menu structure (access through password)
 - communications port RS232 with PC-, Palm- and Internet software



HU 2/3/4/.. DPV 2/4 MC

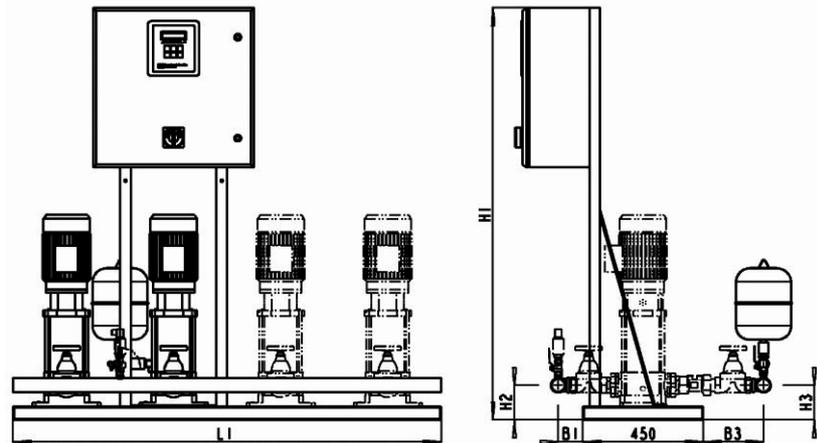


			A	V	H1	H2	H3	L1	B1	B2	B3
HU	2	DPV2	MS R1"	Cu R5/4"	1250	100	100	800	-15	450	57
HU	2	DPV2	MS R5/4"	Cu R6/4"	1250	100	100	800	2	450	78
HU	2	DPV4	MS R1"	Cu R5/4"	1250	100	100	800	-15	450	57
HU	2	DPV4	MS R5/4"	Cu R6/4"	1250	100	100	800	2	450	78
HU	3	DPV2	MS R5/4"	Cu R2"	1250	100	100	1200	8	450	84
HU	3	DPV2	MS R1"	Cu R6/4"	1250	100	100	1200	-12	450	60
HU	3	DPV4	MS R5/4"	Cu R2"	1250	100	100	1200	8	450	84
HU	3	DPV4	MS R1"	Cu R6/4"	1250	100	100	1200	-12	450	60
HU	4	DPV2	MS R5/4"	Cu NW65	1250	100	100	1600	15	450	91
HU	4	DPV2	MS R1"	Cu R2"	1250	100	100	1600	-6	450	66
HU	4	DPV4	MS R5/4"	Cu NW65	1250	100	100	1600	15	450	91
HU	4	DPV4	MS R1"	Cu R2"	1250	100	100	1600	-6	450	66

MS = Brass
 Cu = Copper
 A = Fittings
 V = Piping

Dimensional sketch for Hydro-Unit booster set, equipped with 2, 3 or 4 pumps, type DPV 2 or 4 with motors up to and including 2,2kW (3.0HP).

HU 2/3/4/.. DPV 10/14/18 MC



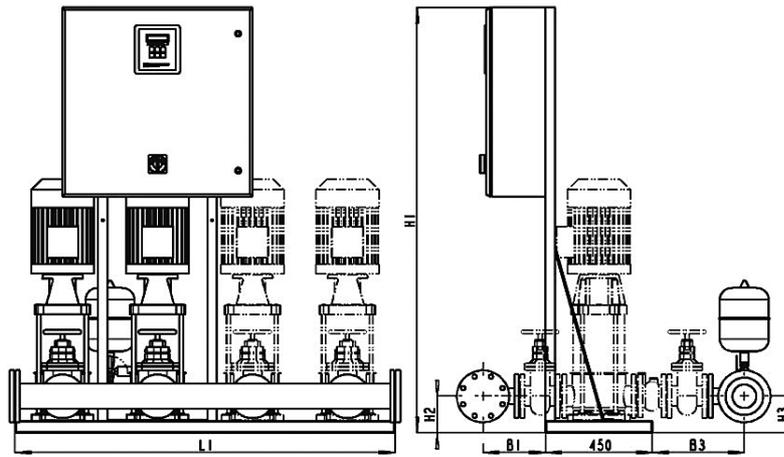
		A	V	H1	H2	H3	L1	B1	B2	B3
HU 2	DPV10	MS R6/4"	Cu R2"	1250	130	130	800	53	450	136
HU 2	DPV10	MS R5/4"	Cu R6/4"	1250	130	130	800	31	450	107
HU 2	DPV14	MS R6/4"	Cu R2"	1250	130	130	800	53	450	136
HU 2	DPV14	MS R1"	Cu R5/4"	1250	130	130	800	14	450	86
HU 2	DPV14	MS R5/4"	Cu R6/4"	1250	130	130	800	31	450	107
HU 2	DPVF18	MS R2"	Cu NW65	1250	140	140	800	79	450	180
HU 3	DPV10	MS R6/4"	Cu NW65	1250	130	130	1200	60	450	143
HU 3	DPV10	MS R5/4"	Cu R2"	1250	130	130	1200	37	450	113
HU 3	DPV14	MS R6/4"	Cu NW65	1250	130	130	1200	60	450	143
HU 3	DPV14	MS R5/4"	Cu R2"	1250	130	130	1200	8	450	113
HU 3	DPV14	MS R1"	Cu R6/4"	1250	130	130	1200	17	450	89
HU 3	DPVF18	MS R2"	Cu NW80	1250	140	140	1200	92	450	193
HU 4	DPV10	MS R5/4"	Cu NW65	1250	130	130	1600	44	450	120
HU 4	DPV10	MS R6/4"	Cu NW80	1250	130	130	1600	67	450	150
HU 4	DPV14	MS R5/4"	Cu NW65	1250	130	130	1600	44	450	120
HU 4	DPV14	MS R6/4"	Cu NW80	1250	130	130	1600	67	450	150
HU 4	DPV14	MS R1"	Cu R2"	1250	130	130	1600	23	450	95
HU 4	DPVF18	MS R2"	Cu NW100	1250	140	140	1600	105	450	206

MS = Brass
 Cu = Copper
 A = Fittings
 V = Piping

Dimensional sketch for Hydro-Unit booster set, equipped with 2, 3 or 4 pumps, type DPV10, 14 or DPV18 with motors up to and including 2,2kW (3.0HP).



HU 2/3/4/.. DPVF 24/32/45 MC



		A	V	H1	H2	H3	L1	B1	B2	B3	
HU	2	DPVF24	GY NW65	Cu NW80	1550	155	155	1200	251	450	374
HU	2	DPVF32	GY NW65	Cu NW80	1550	155	155	1200	251	450	374
HU	2	DPVF45	GY NW80	Cu NW100	1550	155	155	1200	274	450	417
HU	3	DPVF24	GY NW65	Cu NW100	1550	155	155	1600	264	450	387
HU	3	DPVF32	GY NW65	Cu NW100	1550	155	155	1600	264	450	387
HU	3	DPVF45	GY NW80	Cu NW125	1550	155	155	1200	287	450	431
HU	4	DPVF24	GY NW65	Cu NW125	1550	155	155	2000	278	450	401
HU	4	DPVF32	GY NW65	Cu NW125	1550	155	155	2000	278	450	401
HU	4	DPVF45	GY NW80	AISI316 NW150	1550	155	155	2000	305	450	449

GY = Cast iron
 Cu = Copper
 AISI 316 = Stainless steel 316
 A = Fittings
 V = Piping

Dimensional sketch for Hydro-Unit booster set,
 equipped with 2, 3 or 4 pumps, type DPVF 24, 32 or
 45 with motors up to and including
 7,5kW (10.1HP).

HU 2/3/4/.. MCF

Hydro-Unit

Booster system with 2, 3 or 4 pumps provided with frequency converter and Megacontrol.

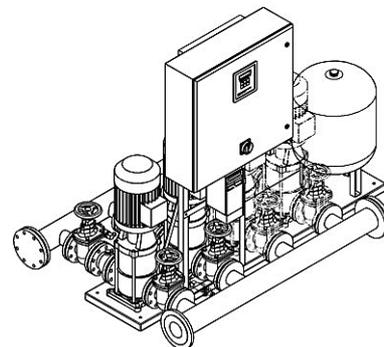
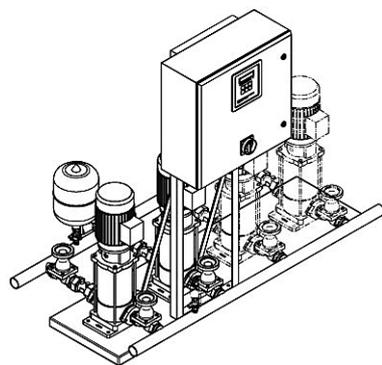
The Hydro Unit booster set is a high grade product, with all wetted parts made of non-corrosive materials. The installation is completely pre-fabricated, wired, preadjusted, factory tested and ready for use.

Construction:

Unit specially constructed for drinking water applications.

Options:

- Control panel equipped with tensionfree contacts for error reporting, divided into "urgent" and "non- urgent"
- Different voltages, protection classes, specifications of materials for pumps, valves and manifolds
- Control systems and numbers of pumps customer specified.



Specifications:

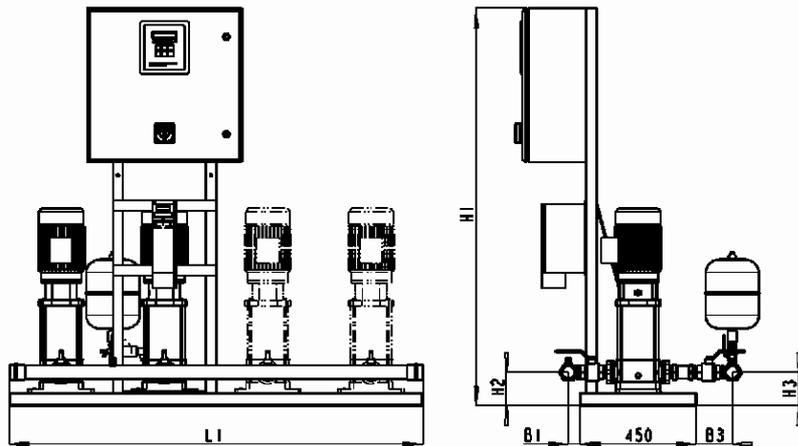
Vertical multistage centrifugal pumps, type DPV
Per pump one spring-loaded check-valve and two shut-off valves.
Headers for parallel configuration of the pumps.
Membrane tank suitable for drinking water.
Analogue pressure sensor for suction pressure.
The complete unit mounted on an epoxy covered base plate.

The control panel has the following functions:

- Door-interlocked mains switch
- Thermal motor protection switches
- Megacontrol microprocessor control module with the following basic functions:
 - Optimized (speed controlled) pump change-over
 - Continuously optimized P.I.D. regulation for system pressure stabilization
 - Adjustable system pressure-loss correction factor
 - 24-hours exercise run
 - Adjustable delay of run-dry protection
- Text display:
 - actual system values (system-pressure, pump load and water supply info)
 - pump status (automatic, manual and disabled)
 - run time (per pump)
 - complete error interface (with help text)
 - easy parameter menu structure (access through password)
 - communications port RS232 with PC-, Palm- en Internet software
- Frequency converter, type VLT2800, brand Danfoss, for modulating all of the system connected pumps.



HU 2/3/4/..DPV 2/4 MCF

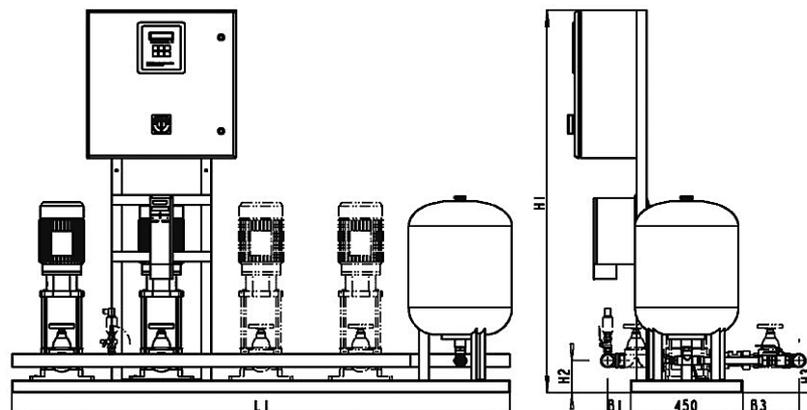


			A	V	H1	H2	H3	L1	B1	B2	B3
HU	2	DPV2	MS R1"	Cu R5/4"	1550	100	100	1200	-15	450	57
HU	2	DPV2	MS R5/4"	Cu R6/4"	1550	100	100	1200	2	450	78
HU	2	DPV4	MS R1"	Cu R5/4"	1550	100	100	1200	-15	450	57
HU	2	DPV4	MS R5/4"	Cu R6/4"	1550	100	100	1200	2	450	78
HU	3	DPV2	MS R5/4"	Cu R2"	1550	100	100	1600	8	450	84
HU	3	DPV2	MS R1"	Cu R6/4"	1550	100	100	1600	-12	450	60
HU	3	DPV4	MS R5/4"	Cu R2"	1550	100	100	1600	8	450	84
HU	3	DPV4	MS R1"	Cu R6/4"	1550	100	100	1600	-12	450	60
HU	4	DPV2	MS R5/4"	Cu NW65	1550	100	100	2000	15	450	91
HU	4	DPV2	MS R1"	Cu R2"	1550	100	100	2000	-6	450	66
HU	4	DPV4	MS R5/4"	Cu NW65	1550	100	100	2000	15	450	91
HU	4	DPV4	MS R1"	Cu R2"	1550	100	100	2000	-6	450	66

MS = Brass
 Cu = Copper
 A = Fittings
 V = Piping

Dimensional sketch for Hydro-Unit booster set, equipped with 2, 3 or 4 pumps, type DPV 2 or 4 with motors up to and including 2,2kW (3.0HP).

HU 2/3/4/.. DPV 10/14/18 MCF



			A	V	H1	H2	H3	L1	B1	B2	B3
HU	2	DPV10	MS R6/4"	Cu R2"	1550	130	130	1200	53	450	136
HU	2	DPV10	MS R5/4"	Cu R6/4"	1550	130	130	1200	31	450	107
HU	2	DPV14	MS R6/4"	Cu R2"	1550	130	130	1200	53	450	136
HU	2	DPV14	MS R1"	Cu R5/4"	1550	130	130	1200	14	450	86
HU	2	DPV14	MS R5/4"	Cu R6/4"	1550	130	130	1200	31	450	107
HU	2	DPV18	MS R2"	Cu NW65	1550	140	140	1200	79	450	180
HU	3	DPV10	MS R6/4"	Cu NW65	1550	130	130	1600	60	450	143
HU	3	DPV10	MS R5/4"	Cu R2"	1550	130	130	1600	37	450	113
HU	3	DPV14	MS R6/4"	Cu NW65	1550	130	130	1600	60	450	143
HU	3	DPV14	MS R5/4"	Cu R2"	1550	130	130	1600	37	450	113
HU	3	DPV14	MS R1"	Cu R6/4"	1550	130	130	1600	17	450	89
HU	3	DPV18	MS R2"	Cu NW80	1550	140	140	1600	92	450	193
HU	4	DPV10	MS R5/4"	Cu NW65	1550	130	130	2000	44	450	120
HU	4	DPV10	MS R6/4"	Cu NW80	1550	130	130	2000	67	450	150
HU	4	DPV14	MS R5/4"	Cu NW65	1550	130	130	2000	44	450	120
HU	4	DPV14	MS R6/4"	Cu NW80	1550	130	130	2000	67	450	150
HU	4	DPV14	MS R1"	Cu R2"	1550	130	130	2000	23	450	95
HU	4	DPV18	MS R2"	Cu NW100	1550	140	140	2000	105	450	206

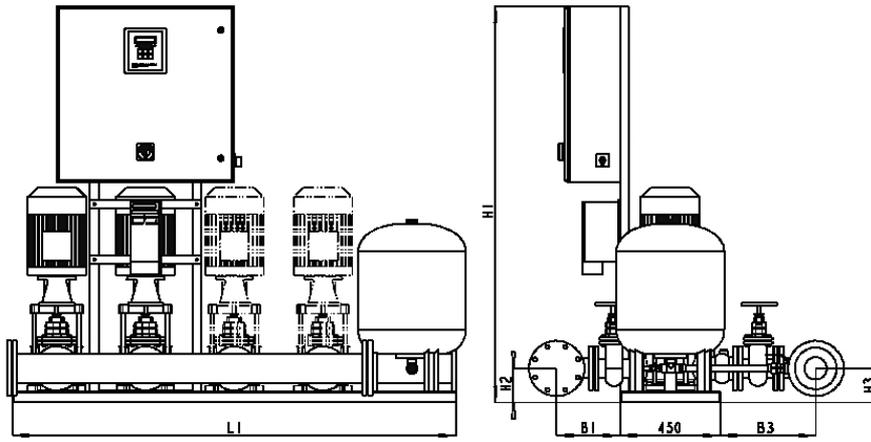
MS = Brass
 Cu = Copper
 A = Fittings
 V = Piping

Dimensional sketch for Hydro-Unit booster set, equipped with 2, 3 or 4 pumps, type DPV10, 14 or DPV18 with motors up to and including 2,2kW (3.0HP).



HU 2/3/4/..

DPV 24/32/45 MCF



			A	V	H1	H2	H3	L1	B1	B2	B3
HU	2	DPVF24	GY NW65	Cu NW80	1550	155	155	1200	251	450	374
HU	2	DPVF32	GY NW65	Cu NW80	1550	155	155	1200	251	450	374
HU	2	DPVF45	GY NW80	Cu NW100	1550	155	155	1200	274	450	417
HU	3	DPVF24	GY NW65	Cu NW100	1550	155	155	1600	264	450	387
HU	3	DPVF32	GY NW65	Cu NW100	1550	155	155	1600	264	450	387
HU	3	DPVF45	GY NW80	Cu NW125	1550	155	155	1200	287	450	431
HU	4	DPVF24	GY NW65	Cu NW125	1550	155	155	2000	278	450	401
HU	4	DPVF32	GY NW65	Cu NW125	1550	155	155	2000	278	450	401
HU	4	DPVF45	GY NW80	AISI316 NW150	1550	155	155	2000	305	450	449

GY = Cast iron
 Cu = Copper
 AISI 316 = Stainless steel 316
 A = Fittings
 V = Piping

Dimensional sketch for Hydro-Unit booster set, equipped with 2, 3 or 4 pumps, type DPVF 24, 32 or 45 with motors up to and including 7,5kW (10.1HP).

HU 2/3/4/ . . MCJ

Hydro-Unit

Booster system with jockey pump provided with Megacontrol.

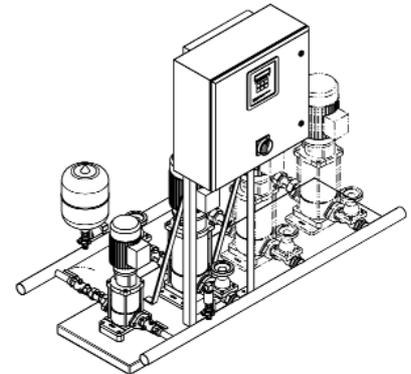
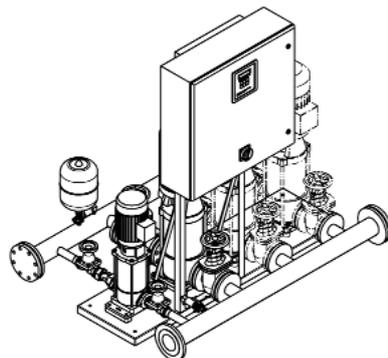
The Hydro Unit booster set is a high grade product, with all wetted parts made of non-corrosive materials. The installation is completely pre-fabricated, wired, preadjusted, factory tested and ready for use.

Construction:

Unit constructed in accordance with NEN 1006 and supplementary requirements of VEWIN.WB 4.3

Options:

- Control panel equipped with tensionfree contacts for error reporting, divided into "urgent" and "non- urgent"
- Different voltages, protection classes, specifications of materials for pumps, valves and manifolds
- Control systems and numbers of pumps customer specified.



Specifications:

Vertical multistage centrifugal pumps, type DPV
Per pump one spring-loaded check-valve and two shut-off valves.

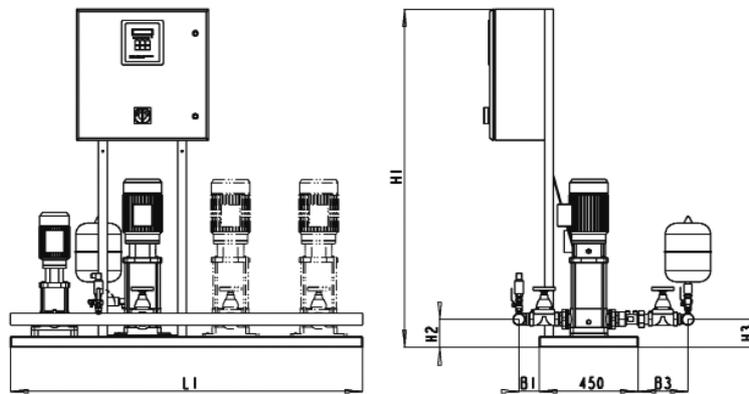
Headers for parallel configuration of the pumps.
Membrane tank suitable for drinking water.
Analogue pressure sensor for system pressure.
Analogue pressure sensor for suction pressure.
The complete unit mounted on an epoxy covered base-plate.

The control panel has the following functions:

- Door-interlocked mains switch
- Thermal motor protection switches
- Megacontrol microprocessor control module with the following basic functions:
 - Jockey pump control
 - Optimized pump change-over
 - Continuously optimized pump run-on timer
 - Adjustable system pressure-loss correction factor
 - 24-hours exercise run
 - Adjustable delay of run-dry protection
- Text display:
 - actual system values (system-pressure, pump load and water supply info)
 - pump status (automatic, manual and disabled)
 - run time (per pump)
 - complete error interface (with help text)
 - easy parameter menu structure (access through password)
 - communications port RS232 with PC-, Palm- and Internet software



HU 2/3/4/..DPV 10/18 MCJ

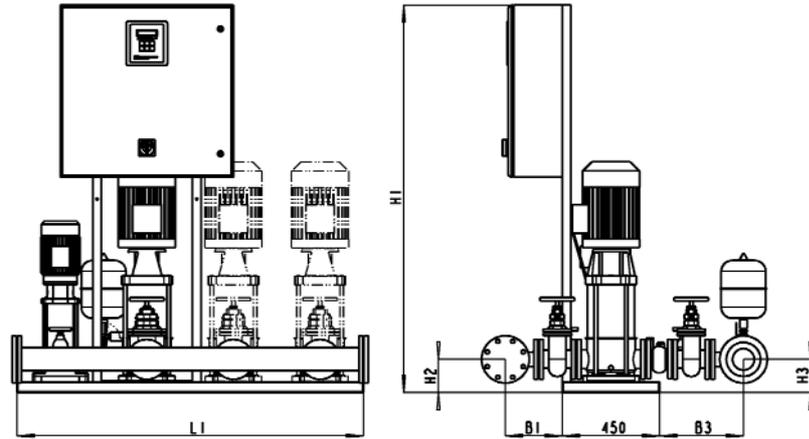


		A		A	V	H1	H2	H3	L1	B1	B2	B3	
HU	2	DPV10	MS R6/4"	DPV2	MS R1"	Cu 54mm	1250	130	130	800	96	450	231
HU	2	DPV10	MS R6/4"	DPV4	MS R5/4"	Cu 54mm	1250	130	130	800	96	450	231
HU	2	DPV18	MS R2"	DPV2	MS R1"	Cu NW65	1250	140	140	800	137	450	292
HU	2	DPV18	MS R2"	DPV4	MS R5/4"	Cu NW65	1250	140	140	800	137	450	292
HU	3	DPV10	MS R6/4"	DPV2	MS R1"	Cu 54mm	1250	130	130	1200	96	450	231
HU	3	DPV10	MS R6/4"	DPV4	MS R5/4"	Cu 54mm	1250	130	130	1200	96	450	231
HU	3	DPV18	MS R2"	DPV2	MS R1"	Cu NW65	1250	140	140	1200	137	450	292
HU	3	DPV18	MS R2"	DPV4	MS R5/4"	Cu NW65	1250	140	140	1200	137	450	292
HU	4	DPV10	MS R6/4"	DPV2	MS R1"	Cu NW65	1250	130	130	1600	103	450	238
HU	4	DPV10	MS R6/4"	DPV4	MS R5/4"	Cu NW65	1250	130	130	1600	103	450	238
HU	4	DPV18	MS R2"	DPV2	MS R1"	Cu NW80	1250	140	140	1600	150	450	305
HU	4	DPV18	MS R2"	DPV4	MS R5/4"	Cu NW80	1250	140	140	1600	150	450	305

MS = Brass
 Cu = Copper
 A = Fittings
 V = Piping

Dimensional sketch for Hydro-Unit booster set, equipped with 2, 3 or 4 pumps, type DPV 10 or DPV 18 with motors up to and including 7,5kW (10,1HP).

HU 2/3/4/.. DPV 24/32/45 MCJ



		A	A	V		H1	H2	H3	L1	B1	B2	B3	
HU	2	DPVF24	GY NW65	DPV14	MS R5/4"	Cu NW80	1550	155	155	800	251	450	374
HU	2	DPVF32	GY NW65	DPV10	MS R6/4"	Cu NW80	1550	155	155	800	251	450	374
HU	2	DPVF32	GY NW65	DPV18	MS R2"	Cu NW80	1550	155	155	800	251	450	374
HU	2	DPVF45	GY NW80	DPV10	MS R6/4"	Cu NW100	1550	155	155	800	274	450	417
HU	2	DPVF45	GY NW80	DPV18	MS R2"	Cu NW100	1550	155	155	800	274	450	417
HU	3	DPVF24	GY NW65	DPV14	MS R5/4"	Cu NW80	1550	155	155	1200	251	450	374
HU	3	DPVF32	GY NW65	DPV10	MS R6/4"	Cu NW80	1550	155	155	1200	251	450	374
HU	3	DPVF32	GY NW65	DPV18	MS R2"	Cu NW80	1550	155	155	1200	251	450	374
HU	3	DPVF45	GY NW80	DPV10	MS R6/4"	Cu NW100	1550	155	155	1200	274	450	417
HU	3	DPVF45	GY NW80	DPV18	MS R2"	Cu NW100	1550	155	155	1200	274	450	417
HU	4	DPVF24	GY NW65	DPV14	MS R5/4"	Cu NW100	1550	155	155	1600	264	450	387
HU	4	DPVF32	GY NW65	DPV10	MS R6/4"	Cu NW100	1550	155	155	1600	264	450	387
HU	4	DPVF32	GY NW65	DPV18	MS R2"	Cu NW100	1550	155	155	1600	264	450	387
HU	4	DPVF45	GY NW80	DPV10	MS R6/4"	Cu NW125	1550	155	155	1600	287	450	431
HU	4	DPVF45	GY NW80	DPV18	MS R2"	Cu NW125	1550	155	155	1600	287	450	431

GY = Cast iron
 MS = Brass
 Cu = Copper
 A = Fittings
 V = Piping

Dimensional sketch for Hydro-Unit booster set,
 equipped with 2, 3 or 4 pumps, type DPVF 24, 32 or
 45 with motors up to and including
 7,5kW (10.1HP).



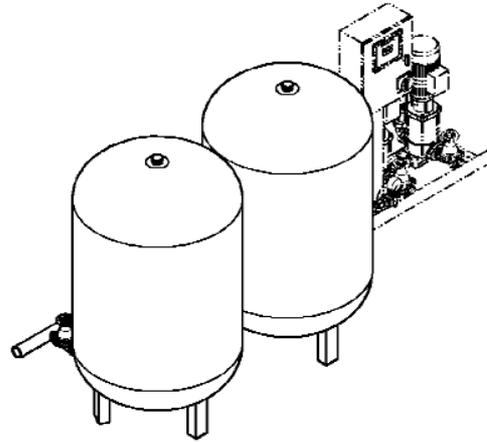
HU + PLUS +

Hydro-Unit+plus+

For optimal energy savings.

Construction:

The tanks have been specially constructed for their application in potable-water installations and do not leave any taste, color or smell in the medium. Through the difference in switching-pressures of the installation, it is guaranteed to totally refresh the water, through the filling and emptying of the tanks.



Specifications:

The most energy efficient system on the market today can be created by adding two membrane tanks.

Every second that the pump is running, the maximum efficiency is used.

Various measurements have shown energy savings of 30 to 40%.

We can send you these reports when on request.

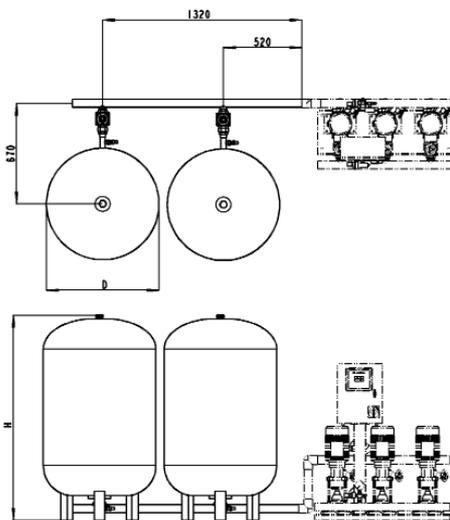
The nominal pressures remain constant and are independent of the variations in the piping.

The switching on of more than one pump is avoided at peak usage.

The Hydro-Unit+plus+ system is delivered complete with connections, shut-off valves, couplings and drain.

All standard, new and existing booster sets, are easily upgraded with the Hydro-Unit+plus+ system.

The Hydro-Unit+Plus+ system will be calculated and completely designed for the specific application for each unit, by our technical advisors.



Maattabel:	Inhoud [l]	D [mm]	H [mm]	DN ["]	Werkdruk [kPa]	Gewicht [kg]
DE 60	45	409	740	1	1000	18
DE 80	60	480	730	1	1000	20
DE 100	75	480	840	1	1000	25
DE 200	150	634	980	5/4	1000	43
DE 300	200	634	1280	5/4	1000	48
DE 500	375	740	1485	5/4	1000	79

ACCESSORIES

Flexible couplings

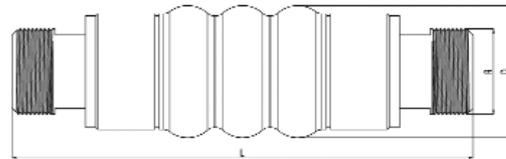
The flexible couplings are specially designed for drinking water applications and approved by the drinking water laboratories on non toxicological aspects.

Besides the absorption of vibrations it also compensates pipe expansion due to temperature changes.



Rubber flexible couplings thread connections

Rubber quality : EPC
 Connections : brass
 Dimensions : 3/4" to 2"
 Max. working pressure : 1200 kPa (3/4")
 900 kPa (1")
 900 kPa (5/4")
 700 kPa (6/4")
 700 kPa (2")
 Max. temperature : 70°C

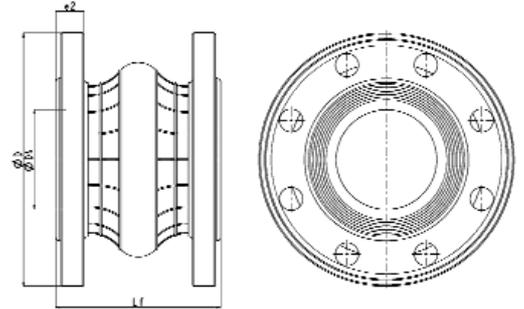


R	L	D
3/4"	212	50
1"	218	55
5/4"	226	66
6/4"	226	94
2"	235	105



Rubber flexible couplings flange connections

Rubber quality : EPC
 Connections : PN10
 Dimensions : NW40 to NW250
 Max. working pressure : 1600 kPa
 Max. temperature : 95°C



DN	D	LF	E2
40	150	130	20
50	165	130	20
65	185	130	20
80	200	130	20
100	220	130	20
125	250	130	20
150	285	130	22
200	340	130	22
250	405	130	22

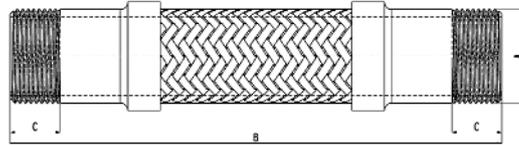


ACCESSORIES



Stainless steel flexible couplings
thread connections

Steel quality :Stainless steel AISI 304
Connections :Stainless steel AISI 304
Dimensions :3/4" to 2" male
Max. working pressure :1600 kPa
Max. temperature :90°C

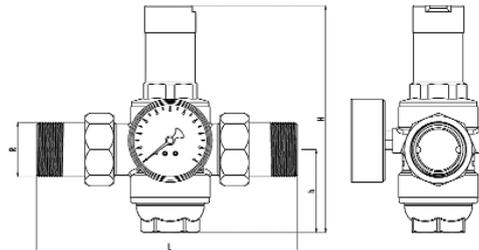


A	B	C
3/4"	212	20
1"	218	20
5/4"	226	20
6/4"	226	20
2"	285	25



Pressure reducing valve

The reducing valve, type D is applicable for reducing the pressure of cold and hot water up to 70°C.



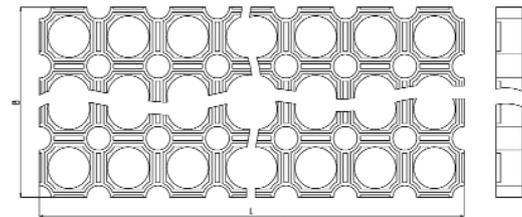
50-200 kPa	R 1/2"	R 3/4"	R 1"	R 5/4"	R 6/4"	R 2"
Ø [mm]	15	22	28	35	42	54
L	140	160	180	200	225	255
H (D 06 F & D 06 FH)	96	96	140	140	172	172
H (D 06 FN)	148	148	185	185	210	210
h (D 06 F)	58	58	88	88	126	126
h (D 06 FH & D 06 FN)	54	54	72	72	82	82

Type		Dimensions	Inlet pressure	Outlet pressure
D06F-	standard version	1/2", 3/4"	max. 2500 kPa	150-600 kPa
		1" t/m 2"	max. 1600 kPa	150-600 kPa
D06FH-	high outlet pressure	1/2" t/m 2"	max. 1600 kPa	150-1200 kPa
D06FN-	low outlet pressure	1/2" t/m 2"	max. 1600 kPa	50-200 kPa

ACCESSORIES

Rubber pad

To fill out floor roughness and eliminate sound transmission, it is essential to use "silent blocks" or for bigger and heavier units rubber pads.

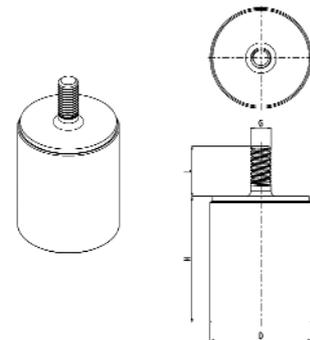


standard dimensions B x L	
B = 400 mm	L = 400 mm
B = 500 mm	L = 1000 / 1250 / 1590 / 1910 mm
B = 650 mm	L = 1250 / 1590 / 1910 / 2250 mm



Silent blocks

Rubber quality : NBR
 Dimensions D x H : 40 x 50 mm 70 shore A
 : 40 x 28 mm 55 shore A
 Thread : M8



Type	H	D	L	G
70-40x50	50	40	15	M8
55-40x28	28	40	23	M8





dp pumps

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