Hydro Multi-S

Installation and operating instructions

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GRUNDFOS

Original installation and operating instructions.

CONTENTS

Warning

Prior to installation, read these installation and operating instructions. Installation and operation must comply with local regulations and accepted codes of good practice.

1. Symbols used in this document

Warning

If these safety instructions are not observed, it may result in personal injury.

Caution ***If these safety instructions are not observed, it may result in malfunction or damage to the equipment.***

Note ***Notes or instructions that make the job easier and ensure safe operation.***

2. Scope of these instructions

These installation and operating instructions apply to Grundfos Hydro Multi-S booster systems.

Hydro Multi-S is a range of factory-assembled booster systems, ready for installation and operation.

3. Product description

The Grundfos Hydro Multi-S booster system is designed for pressure boosting of clean water.

Examples:

- blocks of flats
- hotels
- schools
- agriculture.

Hydro Multi-S consists of two or three identical Grundfos CM, CMV or CR pumps connected in parallel and mounted on a common base frame, suction and discharge manifolds, isolating valves, non-return valves, pressure gauge, pressure switches and a control cabinet. See fig. 1.

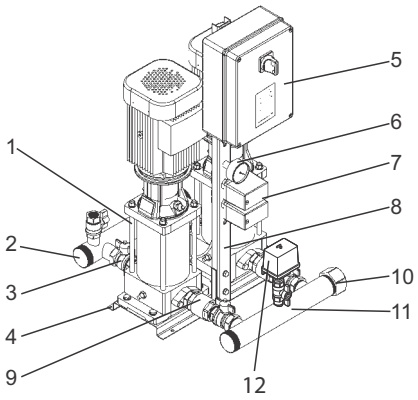

Fig. 1 Hydro Multi-S booster system

Pos.	Components
1	Pumps (Grundfos CM, CMV or CR)
2	Discharge manifold
3	Isolating valves
4	Base frame
5	Control cabinet
6	Pressure gauge
7	Pressure switches
8	Stand
9	Non-return valves
10	Screw caps
11	Suction manifold
12	Pressure switch

Note ***We recommend to install a diaphragm tank on the discharge side.***

4. Identification

4.1 Nameplate

The Hydro Multi-S nameplate is placed on the stand.

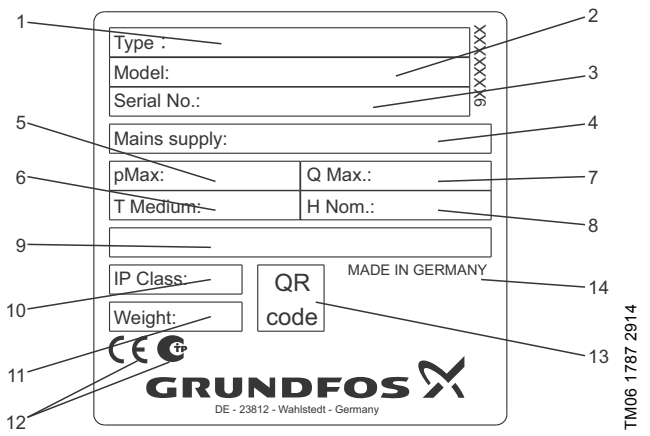

Fig. 2 Hydro Multi-S nameplate

Pos.	Description
1	Type designation
2	Model
3	Serial number
4	Supply voltage
5	Maximum operating pressure in bar
6	T medium
7	Maximum flow rate in m^3/h
8	Nominal head in metres
9	Technical documents
10	Enclosure class
11	Weight in kg
12	Approval mark
13	QR code
14	Country of origin

4.2 Type key

Example	Hydro Multi	-S	2	CR 15-3	U3	A-	B-	A

System name

System type
S: Fixed-speed pumps

Number of pumps

Pump type

Supply voltage code
U3: 3 x 380-415 V, N, PE, 50 Hz
U4: 3 x 380-415 V, PE, 50 Hz
U5: 3 x 380-415 V, N, PE, 60 Hz
U6: 3 x 380-415 V, PE, 60 Hz
U9: 3 x 220-240 V, PE, 60 Hz
UA: 3 x 440-480 V, PE, 60 Hz
UC: 1 x 220-240 V, N, PE, 50 Hz
UD: 1 x 220-240 V, N, PE, 60 Hz
UE: 1 x 220-240 V, PE, 60 Hz
UF: 3 x 208-230/440-480 V, N, PE, 60 Hz
UG: 3 x 208-230/440-480 V, PE, 60 Hz

Design type
A: System with the breaker cabinet mounted on the system.
B: System with wall-mounted breaker cabinet and 5 m wires.

Starting method
B: Direct on line (DOL)
C: Star-delta (SD)

Material code
A: Stainless-steel manifolds, stainless-steel base frame, standard valves
B: Stainless-steel manifolds, stainless-steel base frame, stainless-steel valves
C: Galvanized-steel manifolds, galvanized-steel base frame, standard valves (CME-A pumps only)
G: Galvanized-steel manifolds, galvanized-steel base frame, standard valves
H: Galvanized-steel manifolds, galvanized-steel base frame painted black, standard valves
I: Stainless-steel manifolds, stainless-steel base frame painted black, standard valves
P: Stainless-steel manifolds, galvanized-steel base frame, standard valves

5. Operating conditions

Data	Pump type	
	CM, CMV	CR
Maximum flow rate	Up to 45 m^3/h	Up to 69 m^3/h
Maximum operating pressure	10 bar	10/16 bar
Liquid temperature	+5 to +50 °C	+5 to +50 °C
Ambient temperature	+5 to +60 °C	+5 to +40 °C[1)] +5 to +60 °C[2)]
Maximum suction lift: 10.33 m minus NPSH of the pump minus other suction losses minus a safety margin of 0.5 m		
Power	Up to 3.2 kW	Up to 5.5 kW
Starting method	Direct on line Star-delta	
Supply voltage	3 x 380-415 V, N, PE, 50 Hz 3 x 380-415 V, PE, 50 Hz 3 x 380-415 V, N, PE, 60 Hz 3 x 380-415 V, PE, 60 Hz 3 x 220-240 V, PE, 60 Hz 3 x 440-480 V, PE, 60 Hz 1 x 220-240 V, N, PE, 50 Hz 1 x 220-240 V, N, PE, 60 Hz 1 x 220-240 V, PE, 60 Hz 3 x 208-230/440-480 V, N, PE, 60 Hz 3 x 208-230/440-480 V, PE, 60 Hz	
Voltage tolerance	+ 10 %/- 10 %	
Relative air humidity	Max. 95 %	
Enclosure class	IP54	

1) Applies to motor sizes of 0.37 kW and up to and including 0.75 kW.

2) Applies to motor sizes of 1.1 kW and up to and including 5.5 kW.

6. Installation

Warning

Installation must comply with local regulations and accepted codes of good practice.

Before installation, check the following:

- that the booster system corresponds to order.
- that no visible parts have been damaged.

6.1 Mechanical installation

Caution ***Do not stand on the manifolds. This may cause damage to the pump housing or leakage at all joints.***

6.1.1 Location

To ensure adequate cooling of motor and electronics, the following must be observed:

- Place the Hydro Multi-S in such a way that adequate cooling is ensured.
- Motor cooling fins, holes in fan cover and fan blades must be kept clean.

Note ***The Hydro Multi-S is not suitable for outdoor installation and should be protected from freezing and direct sunlight.***

The booster system should be placed with sufficient clearance around it for inspection and service.

6.1.2 Prefilling of diaphragm tank

If a diaphragm tank is connected to the system, then prefill the tank with nitrogen to a pressure of 0.9 x setpoint.

Note ***It is important to use nitrogen to prevent corrosion inside the diaphragm tank.***

6.1.3 Pipework

The pipes connected to the booster system must be of adequate size.

Connect the pipes to the manifolds of the booster system. Either end can be used.

Apply sealing compound to the unused end of the manifold, and fit a screw cap.

To achieve optimum operation and minimise noise and vibration, it may be necessary to install vibration dampers.

Noise and vibration are generated by the rotations in motor and pump and by the flow in pipework and fittings.

If a booster system is installed in a block of flats or the first consumer on the line is close to the booster system, it is advisable to fit expansion joints on the suction and discharge pipes to prevent vibration being transmitted through the pipework.

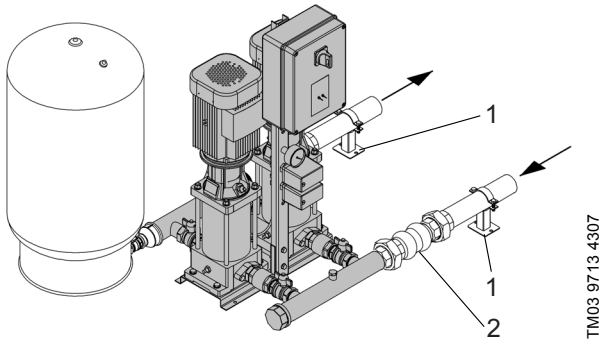

Fig. 3 Example of installation with expansion joints and pipe supports (Grundfos standard scope of supply in grey colour)

Pos.	Description
1	Pipe support
2	Expansion joint

Note ***The diaphragm tank, expansion joints, pipe supports and machine shoes are not supplied with a standard booster system.***

Retighten all nuts prior to start-up.

The pipes must be fastened to parts of the building to ensure that they cannot move or be twisted.

If the pump is to be operated with a suction lift, it is mandatory to install a foot valve of adequate size.

If the booster system is installed on a base frame with vibration dampers, expansion joints should always be fitted on the manifolds. This is important to prevent the booster system from "hanging" in the pipework.

6.1.4 Foundation

The booster system should be positioned on an even and solid surface. If the booster system is not fitted with machine shoes, it must be bolted to the floor.

Note ***Hydro Multi-S systems with CM pumps must always be bolted to the floor.***

6.1.5 Expansions joints

The purpose of expansion joints is as follows:

- To absorb expansions/contractions in the pipework caused by changing liquid temperature.
- To reduce mechanical strains in connection with pressure surges in the pipework.
- To isolate mechanical structure-borne noise in the pipework (only rubber-bellows expansion joints).

Note ***Expansion joints must not be installed to compensate for inaccuracies in the pipework such as centre displacement of ports.***

Fit the expansion joints at a distance of minimum 1 to 1 1/2 times the nominal port diameter from the suction and discharge manifolds. This prevents the development of turbulence in the expansion joints, resulting in better suction conditions and a minimum pressure loss on the discharge side.

The pipework should be anchored so that it does not stress the expansion joints and the pump. Follow the supplier's instructions and pass them on to advisers or pipe installers.

6.2 Electrical installation

Warning

The electrical connection must be carried out by an authorised person in accordance with local regulations and the relevant wiring diagram.

Make sure to disconnect the power supply using the mains switch and lock it with a padlock to ensure that it cannot be accidentally switched on.

The following must be observed:

- The electrical installation of the booster system must comply with enclosure class IP54.
- Make sure that the booster system is suitable for the power supply to which it is connected.
- Make sure that the wire cross-section corresponds to the specifications in the wiring diagram.

Note ***See also the wiring diagram supplied with the booster system.***

7. Control panel

The Grundfos Hydro Multi-S booster system can be controlled via the control panel integrated in the control cabinet. See fig. 4.

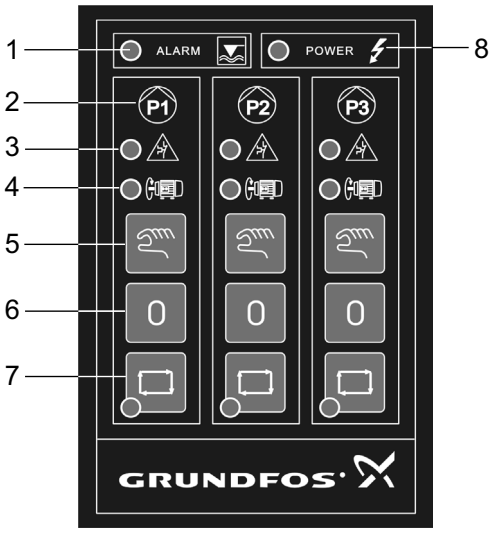

Fig. 4 Control panel

Pos.	Description
1	LED indication for dry-running alarm
2	Pump number
3	LED indication for fault status (three-phase pumps only)
4	LED indication for pump running
5	Buttons for manual operation
6	Buttons for stopping the pumps
7	Buttons for automatic operation
8	LED indication for power on

8. Start-up

Caution ***Do not start the booster system until the pumps and the suction pipe have been filled with liquid.***

To start up the booster system, proceed as follows:

1. Connect water and power supplies.
2. Close the valve on the discharge side of all the pumps.
3. Prime all pumps, and make sure that the suction manifold and the suction pipe are primed as well.
4. Check that the tank precharge pressure is equal to 0.9 x cut-in pressure.
5. Switch on the power supply.
6. Start the first pump by pressing and holding down the button for manual operation.
7. Check the direction of rotation of the pump.
   If the direction of rotation is wrong, interchange two phases of the power supply.
8. Vent the pump by slowly opening its discharge valve.
9. Repeat the same procedure for the other pumps.
10. Release the booster system for automatic operation by pressing the button for automatic operation.

9. Operating modes

The operating mode of each pump can be selected with the dedicated buttons for "Automatic operation", "Stop" and "Manual operation" as described in section *7. Control panel*.

9.1 Manual operation

Manual operation is generally used during commissioning, testing or for maintenance and service purposes.

To enable manual operation, press and hold down the button for manual operation.

Note ***The button for manual operation has no permanent position. Therefore, keep the button pressed during the test cycle.***

9.2 Automatic operation

When this operating mode is selected, the pumps will operate automatically according to the system requirements, e.g. the pressures set on the pressure switches.

- When a tap is opened, water will be drawn from the diaphragm tank, if fitted, until the tank is empty.
- When the pressure drops to the first cut-in pressure, the first pump will start.
- If the consumption is still increasing, more pumps will be cut in until the performance of the pumps in operation corresponds to the requirements.
- When the water consumption decreases, the discharge pressure will rise to the first cut-out pressure, the pressure switch will cut out, and one pump will be stopped.
- If the consumption is still decreasing, more pumps will be cut out until the last pump stops.

9.3 Dry-running protection

The Hydro Multi-S incorporates dry-running protection to protect the pumps from running dry. The dry-running protection is activated by a pressure switch or a level switch connected on the suction side and then connected to the control cabinet.

Note ***Each pressure switch will be related to one pump only and not necessarily to the same pump when the pumps alternate after each cycle.***

9.4 Emergency operation

Warning

The terminals and the cables connected before the mains switch will remain powered even if the switch is in off position.

Caution ***Emergency operation should only be used in case of emergency and only for short periods of time.***

A defective circuit board should always be replaced by a new one. Contact Grundfos for a new circuit board.

All functions of the Hydro Multi-S are controlled by an electronic circuit board inside the control cabinet. If the circuit board should fail, it is possible to avoid system stops. For three-phase booster systems, it is possible to bypass the circuit board and operate the booster system by using the pressure switches only.

To establish emergency operation, proceed as follows:

1. Switch off the power supply, and open the control cabinet.
2. Remove the control connector from its original position, see fig. 5, pos. A, and insert the connector in the emergency position, see fig. 5, pos. B.
3. Close the control cabinet, and switch on the power supply.

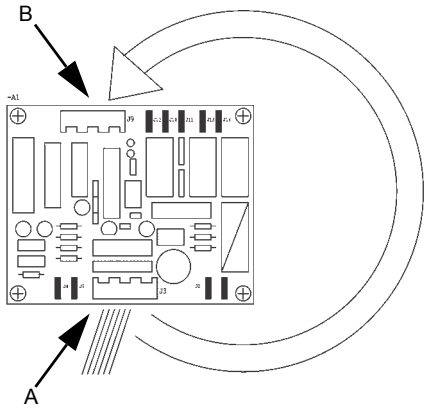

Fig. 5 Electronic circuit board

10. Functions

The Hydro Multi-S offers the following features:

- Automatic cascade control of pumps by means of two or three pressure switches.
- Automatic pump changeover at any start/stop cycle.
- If a pump is in fault status, it is automatically taken out of operation.
- Automatic resetting of dry-running fault status.
- Manual resetting of tripped-overload status.
- Pump and system protection:
  - Short-circuit protection by means of fuses.
  - Motor protection by means of a thermal overload relay.
  - Dry-running protection by means of an additional pressure switch or level switch.
  - Start-up delay between two pumps: Prevents simultaneous start-up of more than one pump.

11. Settings

11.1 Setting the pressure switches

Warning

The cut-out pressure must under no circumstances exceed the maximum operating pressure of the pump and tank.

Each booster system is factory-tested, and the pressure switches are adjusted to ensure optimum performance.

During installation and commissioning, it might be necessary to adjust the settings to optimise operation in the actual installation. See fig. 6.

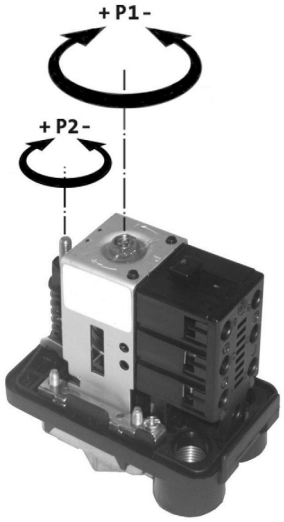

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Fig. 6 Pressure switch

11.1.1 Setting the cut-out pressure

To set the cut-out pressure ($p_{cut-out}$), proceed as follows:

1. Turn the P1 screw clockwise to increase the cut-out pressure and counter-clockwise to decrease the cut-out pressure. See fig. 6.
2. Set the cut-out pressures with a difference of 0.3 to 0.5 bar respectively (cascade step) on each pressure switch.
3. Start the pump, and check by reading the pressure gauge whether the desired cut-out pressure has been obtained for each pressure switch.

11.1.2 Setting the differential pressure

To set the differential pressure ($p_{diff.}$), turn the P2 screw clockwise to increase the differential pressure and counter-clockwise to decrease the differential pressure. The cut-out pressure remains unchanged. See fig. 6.

The differential pressure must be set to the same value on all pressure switches.

11.1.3 Cut-in pressure

The cut-in pressure (p_{cut-in}) will be automatically set when the differential pressure is set.

$$p_{cut-in} = p_{cut-out} - p_{diff.}$$

To check whether the cut-in pressure is as desired, proceed as follows:

1. Start the pump, and check by reading the pressure gauge whether the desired cut-out and cut-in pressures have been obtained.
2. Repeat the above setting procedures until the right cut-in and cut-out pressures have been obtained.

11.2 Setting the diaphragm tank precharge pressure

When the pump cut-in pressure has been determined, the required precharge pressure of the diaphragm tank can be adjusted roughly to 90 % of the pump cut-in pressure.

Precharge pressure = 0.9 x p_{cut-in}.

The tank precharge has to be checked/adjusted when the discharge pipe is empty.

12. Maintenance

Warning

Before starting work on the pumps, make sure that the power supply has been switched off.

Lock the mains switch with a padlock to ensure that it cannot be accidentally switched on.

12.1 Pump

Pump bearings and shaft seals are maintenance-free.

12.2 Settings

To ensure reliable and correct operation, the precharge pressure of the diaphragm tank and the setting of the pressure switches should be checked regularly and at least once a year.

12.3 Frost protection

If the booster system is not used during periods of frost, the manifolds, pumps and diaphragm tank should be drained to avoid damage.

13. Fault finding chart

For faults not listed in this fault finding chart, please refer to the installation and operating instructions for the pumps.

Warning

Before making any work on the booster system, make sure that the power supply has been switched off and that it cannot be accidentally switched on.

Fault	Cause	Remedy
1. The Hydro Multi-S does not run when started.	a) The actual pressure is higher than or equal to the cut-in pressure set.	Wait until the pressure has dropped, or lower the pressure on the discharge side of the Hydro Multi-S. Check that the booster system starts.
	b) Power supply disconnected.	Connect the power supply.
	c) Automatic circuit breakers cut out.	Correct the fault, and cut in the circuit breakers.
	d) Motor protection activated.	Contact Grundfos.
	e) Circuit breaker defective.	Replace the circuit breaker.
	f) Pressure switch defective.	Replace the pressure switch.
	g) Fuse defective.	Correct the fault, and replace the fuse.
	h) Pump blocked.	Remove the cause of the blocking.
	i) Motor defective.	Repair or replace the motor.
	j) Electronic circuit-board failure.	Replace the fuse, if defective.
		Switch to emergency operation, and replace the electronic circuit board, if defective.
2. Pump starts, but stops immediately afterwards.	a) Incorrect setting of pressure switch.	Increase the cut-out pressure and/or differential pressure.
	b) Wrong diaphragm tank precharge pressure.	Check the precharge pressure.
	c) Dry-running protection activated.	Check the inlet conditions, and make sure that liquid flows freely to the pumps.
3. Frequent starts and stops.	a) Incorrect setting of pressure switch.	Increase the cut-out pressure and/or differential pressure.
	b) Wrong diaphragm tank precharge pressure.	Check the precharge pressure.
	c) Diaphragm tank defective.	Repair or replace the diaphragm tank.
4. Pumps are running, but deliver no water.	a) Suction pipe/pumps blocked by impurities.	Clean the suction pipe/pumps.
	b) Foot or non-return valve blocked in closed position.	Check and repair the valve.
	c) Air in suction pipe/pumps.	Vent the pumps. Check the suction pipe for leakages.
	d) Motors running with wrong direction of rotation.	Change the direction of rotation (interchange two phases of the power supply).
5. Pumps run backwards when switched off.	a) Leakage in suction pipe.	Repair or replace the suction pipe.
	b) Foot or non-return valve is defective.	Repair or replace the valve.
6. Shaft seal leakage.	a) Shaft seal defective.	Replace the shaft seal.
7. Noise.	a) The pumps are cavitating.	Check the suction conditions (pump, pipe, valves and the suction strainer, if any).

14. Related documentation

For further information about Hydro Multi-S, see WebCAPS on Grundfos' homepage, www.grundfos.com.

15. Disposal

This product or parts of it must be disposed of in an environmentally sound way:

1. Use the public or private waste collection service.
2. If this is not possible, contact the nearest Grundfos company or service workshop.

Subject to alterations.

GB: EC declaration of conformity

We, Grundfos, declare under our sole responsibility that the products Hydro Multi-S, to which this declaration relates, are in conformity with these Council directives on the approximation of the laws of the EC member states:

BG: ЕС декларация за съответствие

Ние, фирма Grundfos, заявяваме с пълна отговорност, че продуктите Hydro Multi-S, за които се отнася настоящата декларация, отговарят на следните указания на Съвета за уеднаквяване на правните разпоредби на държавите членки на ЕС:

CZ: ES prohlášení o shodě

My firma Grundfos prohlašujeme na svou plnou odpovědnost, že výrobky Hydro Multi-S, na něž se toto prohlášení vztahuje, jsou v souladu s ustanoveními směrnice Rady pro sblížení právních předpisů členských států Evropského společenství v oblastech:

DK: EF-overensstemmelseserklæring

Vi, Grundfos, erklærer under ansvar at produkterne Hydro Multi-S som denne erklæring omhandler, er i overensstemmelse med disse af Rådets direktiver om indbyrdes tilnærmelse til EF-medlemsstaternes lovgivning:

DE: EG-Konformitätserklärung

Wir, Grundfos, erklären in alleiniger Verantwortung, dass die Produkte Hydro Multi-S, auf die sich diese Erklärung bezieht, mit den folgenden Richtlinien des Rates zur Angleichung der Rechtsvorschriften der EU-Mitgliedsstaaten übereinstimmen:

EE: EL vastavusdeklaratsioon

Meie, Grundfos, deklareerime enda ainuvastutusel, et tooted Hydro Multi-S, mille kohta käesolev juhend käib, on vastavuses EÜ Nõukogu direktiividega EMÜ liikmesriikide seaduste ühitamise kohta, mis käsitlevad:

GR: Δήλωση συμμόρφωσης ΕΟ

Εμείς, η Grundfos, δηλώνουμε με αποκλειστικά δική μας ευθύνη ότι τα προϊόντα Hydro Multi-S στα οποία αναφέρεται η παρούσα δήλωση, συμμορφώνονται με τις εξής Οδηγίες του Συμβουλίου περί προσέγγισης των νομοθεσιών των κρατών μελών της ΕΕ:

ES: Declaración CE de conformidad

Nosotros, Grundfos, declaramos bajo nuestra entera responsabilidad que los productos Hydro Multi-S, a los cuales se refiere esta declaración, están conformes con las Directivas del Consejo en la aproximación de las leyes de las Estados Miembros del EM:

FR: Déclaration de conformité CE

Nous, Grundfos, déclarons sous notre seule responsabilité, que les produits Hydro Multi-S, auxquels se réfère cette déclaration, sont conformes aux Directives du Conseil concernant le rapprochement des législations des Etats membres CE relatives aux normes énoncées ci-dessous:

HR: EZ izjava o usklađenosti

Mi, Grundfos, izjavljujemo pod vlastitom odgovornošću da je proizvod Hydro Multi-S, na koji se ova izjava odnosi, u skladu s direktivama ovog Vijeća o usklađivanju zakona država članica EU:

IT: Dichiarazione di conformità CE

Grundfos dichiara sotto la sua esclusiva responsabilità che i prodotti Hydro Multi-S, ai quali si riferisce questa dichiarazione, sono conformi alle seguenti direttive del Consiglio riguardanti il riavvicinamento delle legislazioni degli Stati membri CE:

LV: EK atbilstības deklarācija

Sabiedrība GRUNDFOS ar pilnu atbildību dara zināmu, ka produkti Hydro Multi-S, uz kuriem attiecas šis paziņojums, atbilst šādām Padomes direktīvām par tuvināšanos EK dalībvalstu likumdošanas normām:

LT: EB atitikties deklaracija

Mes, Grundfos, su visa atsakomybe pareiškiame, kad gaminiai Hydro Multi-S, kuriems skirta ši deklaracija, atitinka šias Tarybos Direktyvas dėl Europos Ekonominės Bendrijos šalių narių įstatymų suderinimo:

HU: EK megfelelőségi nyilatkozat

Mi, a Grundfos, egyedüli felelősséggel kijelentjük, hogy a Hydro Multi-S termékek, amelyekre jelen nyilatkozik vonatkozik, megfelelnek az Európai Unió tagállamainak jogi irányelveit összehangoló tanács alábbi előírásainak:

UA: Декларація відповідності ЄС

Компанія Grundfos заявляє про свою виключну відповідальність за те, що продукти Hydro Multi-S, на які поширюється дана декларація, відповідають таким рекомендаціям Ради з уніфікації правових норм країн - членів ЄС:

ID: Deklarasi kesesuaian dengan EC

Kami, Grundfos, menyatakan dengan tanggung jawab kami sendiri bahwa produk Hydro Multi-S, yang berkaitan dengan pernyataan ini, sesuai dengan petunjuk Dewan berikut ini sedapat mungkin dengan hukum negara-negara anggota Komunitas Eropa:

PL: Deklaracja zgodności WE

My, Grundfos, oświadczamy z pełną odpowiedzialnością, że nasze wyroby Hydro Multi-S, których deklaracja niniejsza dotyczy, są zgodne z następującymi wytycznymi Rady d/s ujednolicenia przepisów prawnych krajów członkowskich WE:

PT: Declaração de conformidade CE

A Grundfos declara sob sua única responsabilidade que os produtos Hydro Multi-S, aos quais diz respeito esta declaração, estão em conformidade com as seguintes Directivas do Conselho sobre a aproximação das legislações dos Estados Membros da CE:

RU: Декларация о соответствии ЕС

Мы, компания Grundfos, со всей ответственностью заявляем, что изделия Hydro Multi-S, к которым относится настоящая декларация, соответствуют следующим Директивам Совета Евросоюза об унификации законодательных предписаний стран-членов ЕС:

RO: Declaraţie de conformitate CE

Noi, Grundfos, declarăm pe propria răspundere că produsele Hydro Multi-S, la care se referă această declaraţie, sunt în conformitate cu aceste Directive de Consiliu asupra armonizării legilor Statelor Membre CE:

SK: Prehlásenie o konformite ES

My firma Grundfos prehlasujeme na svoju plnú zodpovednosť, že výrobky Hydro Multi-S, na ktoré sa toto prehlásenie vzťahuje, sú v súlade s ustanovením smernice Rady pre zblíženie právnych predpisov členských štátov Európskeho spoločenstva v oblastiach:

SI: ES izjava o skladnosti

V Grundfosu s polno odgovornostjo izjavljamo, da so naši izdelki Hydro Multi-S, na katere se ta izjava nanaša, v skladu z naslednjimi direktivami Sveta o približevanju zakonodaje za izenačevanje pravnih predpisov držav članic ES:

RS: EC deklaracija o usaglašenosti

Mi, Grundfos, izjavljujemo pod vlastitom odgovornošću da je proizvod Hydro Multi-S, na koji se ova izjava odnosi, u skladu sa direktivama Saveta za usklađivanje zakona država članica EU:

FI: EY-vaatimustenmukaisuusvakuutus

Me, Grundfos, vakuutamme omalla vastuullamme, että tuotteet Hydro Multi-S, joita tämä vakuutus koskee, ovat EY:n jäsenvaltioiden lainsäädännön yhdenmukaistamiseen tähtäävien Euroopan neuvoston direktiivien vaatimusten mukaisia seuraavasti:

SE: EG-försäkran om överensstämmelse

Vi, Grundfos, försäkrar under ansvar att produkterna Hydro Multi-S, som omfattas av denna försäkran, är i överensstämmelse med rådets direktiv om inbördes närmande till EU-medlemsstaternas lagstiftning, avseende:

VI: Tuyên bố tuân thủ EC (Hội đồng Châu Âu)

Chúng tôi - Grundfos - tuyên bố trong phạm vi trách nhiệm duy nhất của mình rằng các sản phẩm Hydro Multi-S mà tuyên bố này có liên quan tuân thủ các chỉ thị Hội đồng sau về việc áp dụng luật pháp của các nước thành viên EC:

TR: EC uygunluk bildirgesi

Grundfos olarak bu beyannameye konu olan Hydro Multi-S ürünlerinin, AB Üyesi Ülkelerin kanunlarını birbirine yaklaştırma üzerine Konsey Direktifleriyle uyumlu olduğunun yalnızca bizim sorumluluğumuz altında olduğunu beyan ederiz:

CN: EC 产品合格声明书

我们格兰富在我们的全权责任下声明，产品 Hydro Multi-S，即该合格证所指之产品，符合欧共体使其成员国法律趋于一致的以下欧共理事会指令：

KO: EC 적합성 선언

Grundfos 에서는 자사의 단독 책임에 따라 이 선언과 관련된 Hydro Multi-S 제품이 EC 회원국 법률에 기반한 다음 이사회 지침을 준수함을 선언합니다 :

TH: คำประกาศความสอดคล้องตามมาตรฐาน EC

เราในนามของบริษัท Grundfos
ขอประกาศภายใต้ความรับผิดชอบของเราแต่เพียงผู้เดียวว่าผลิตภัณฑ์
Hydro Multi-S
ซึ่งเกี่ยวข้องกับคำประกาศนี้มีความสอดคล้องกับระเบียบคำสั่งเหล่านี้ของสภาวิชาชีพว่าด้วยคำประมาณตามกฎหมายของรัฐที่เป็นสมาชิก EC:

MY: Perisytiharan keakuran EC

Kami, Grundfos, mengisytiharkan di bawah tanggungjawab kami semata-mata bahawa produk Hydro Multi-S, yang berkaitan dengan perisytiharan ini, akur dengan perintah Majlis ini tentang penghampiran undang-undang negara ahli EC:

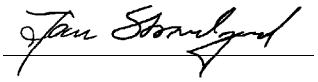
— Machinery Directive (2006/42/EC).
Standards used: EN 809: 1998.

— Low Voltage Directive (2006/95/EC).
Standard used: EN 60439-1: 2002.

— EMC Directive (2004/108/EC).
Standards used: EN 61000-6-1: 2007, EN 61000-6-2: 2005, EN 61000-6-3: 2007, EN 61000-6-4: 2007.

This EC declaration of conformity is only valid when published as part of the Grundfos installation and operating instructions (publication number 96777573 0814).

Bjerringbro, 15th August 2014



Jan Strandgaard
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