

GRUNDFOS MAGNA

The Quiet Revolution continues . . .

GRUNDFOS MAGNA

**User-friendly, speed-controlled, wet-rotor circulator pumps.
The smart choice for heating applications.**



BE > THINK > INNOVATE >

GRUNDFOS® 

AMAZING PERFORMANCE



MEET THE MAGNA

The new MAGNA variable-speed wet rotor circulator from Grundfos is powerful, reliable, intelligent, and energy-efficient.

MAGNA delivers plenty of edge by utilizing a permanent-magnet rotor, a revolutionary design pioneered by Grundfos.

It's easy to install, simple to operate, and a good choice for the replacement market. With these features and more, MAGNA is the smart choice for your pumping application.

- › Integrated frequency converter ensures maximum efficiency during operation
- › Patented AUTOADAPT function is the “brains” behind the operation
- › Speed-controlled for heating systems
- › Short flange-to-flange length
- › Proportional pressure control for maximum energy savings
- › Optimized sizing, installation, and operation
- › Low noise level
- › Flows from 10 to 170 gpm
- › Plug-and-pump = simple to install
- › “Green” conscious and environmentally friendly
- › Highly efficient pump and motor
- › Available in three models in cast iron or stainless steel construction



THE RIGHT BALANCE

COMFORT OR EFFICIENCY?

With MAGNA, you don't have to choose. The patented AUTOADAPT feature is unique to Grundfos and is the crowning glory of MAGNA.

Call it the brains behind the pump's operation: it analyzes your heating system, learns what works best for your application and changes the settings accordingly.

AUTOADAPT works behind the scenes during all stages of the pump's life cycle. It gives you simple and accurate specification, easy installation, reliable operation, increased comfort, and continued energy savings.

The AUTOADAPT function regularly adjusts the proportional pressure and automatically sets a more efficient performance curve whenever possible. It never sacrifices comfort for efficiency, and the balance is always right.

With AUTOADAPT, the MAGNA isn't just smart, it's intelligent.

EVERYONE BENEFITS WITH AUTOADAPT

The AUTOADAPT function benefits everyone. It

- ensures that MAGNA pumps meet the specifications of **Consulting Engineers** without overperforming. Settings are adjusted to suit demand but are still ready to provide necessary flow during peak demand situations. Reduces system stress, improving overall life cycle.
- requires no manual adjustment by **Installers** in approximately 80% of installations. Works perfectly the instant it's switched on.

- provides the **End User** with comfort, reliability, and substantial energy savings year after year.

PROPORTIONAL PRESSURE CONTROL WITH AUTOADAPT

Groundbreaking work by Grundfos led to the discovery of proportional pressure control. In pumps using this principle, the differential pressure across the pump is automatically adjusted to match the flow.

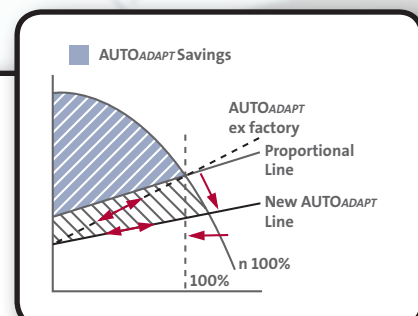
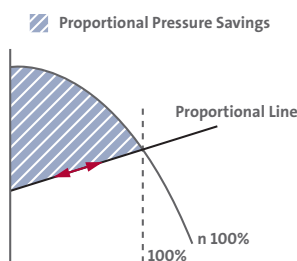
When the flow falls, so does the pressure required, which results in a corresponding reduced load on the motor – along with reduced energy consumption.

Things get even better when you add the AUTOADAPT function.

At start-up, the MAGNA operates with a lower differential pressure than other comparable units (shown by the AUTOADAPT factory setting line).

As the flow increases, the pump pressure follows the line for the AUTOADAPT factory setting until the pump operates on the maximum curve, continuing downward until it reaches the required flow.

When the flow is subsequently reduced, the AUTOADAPT function ensures that the operating profile doesn't simply return to the original curve – it actually sets a new, lower pump speed (n =new) that results in even greater energy savings!



An exploded view diagram of a Grundfos MAGNA pump assembly. The main pump housing is red and shown on the left. To its right is the impeller, a grey circular component with a central hub. Further right is the motor assembly, consisting of a grey cylindrical body and a permanent-magnet rotor with orange and grey segments. Black leader lines connect the text blocks to their respective components: the top flange of the pump housing, the impeller, and the motor assembly.

SMART FLANGE CONNECTION

MAGNA pumps are available with flange connections for easy installation into new or existing systems.

OPTIMIZED HYDRAULICS

Pump housing and impeller designed to be a perfect match. Extensive 3-D testing and simulations ensure that the hydraulics operate as efficiently as possible, thereby reducing energy consumption.

PERMANENT-MAGNET ROTOR

Designed to generate greater energy savings than any other speed-controlled circulator pump on the market.

AN INSIDE LOOK AT MAGNA

MAGNA is the result of a development process dedicated to creating the “smartest,” most efficient circulator pumps on the market. The pump design was optimized to reduce

energy consumption, and nothing was overlooked. Our engineers utilized sophisticated 3-D design software and flow simulation equipment so they could produce a pump that

delivers exceptional performance – a hallmark feature of MAGNA and Grundfos.

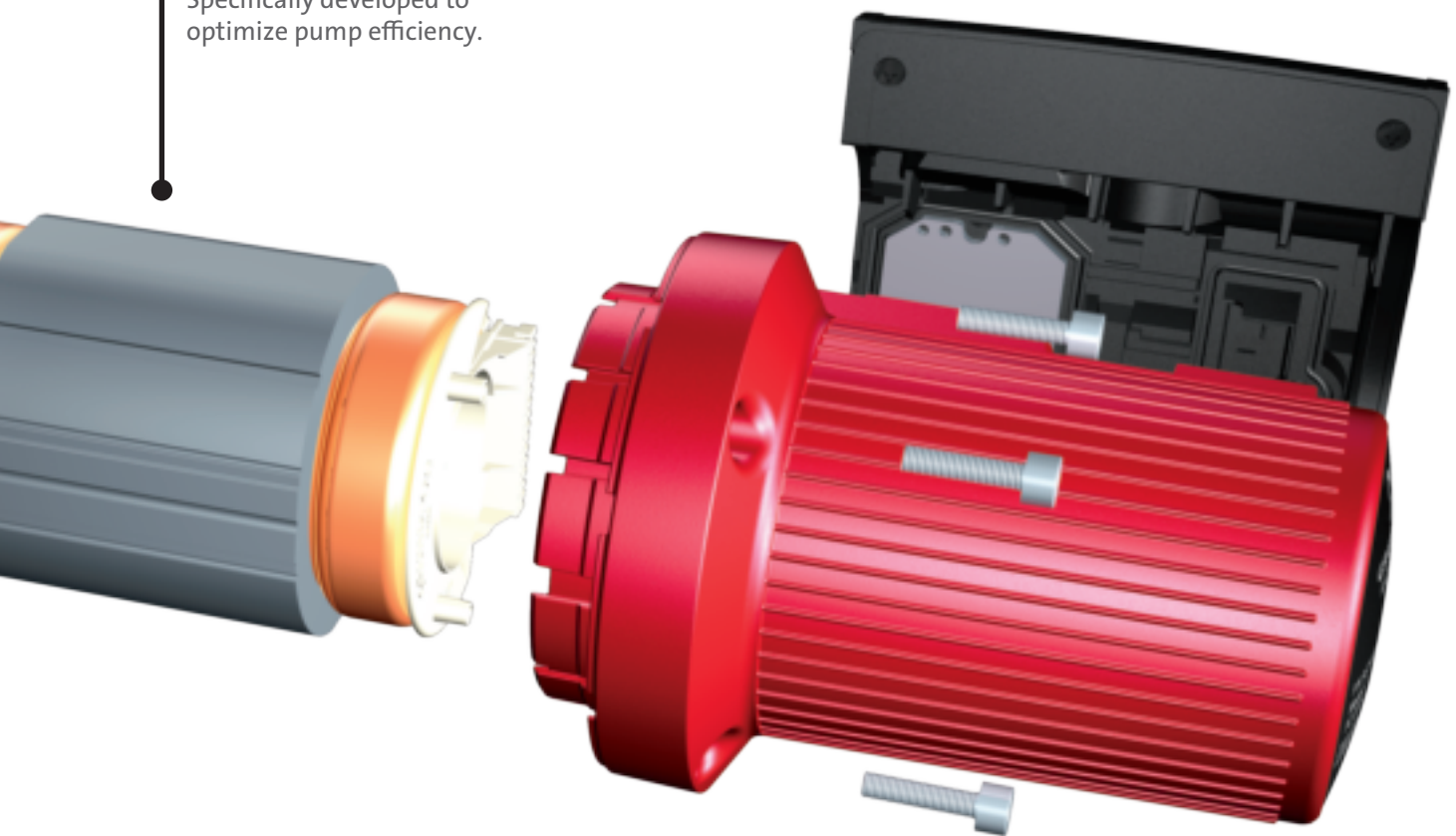
GROUNDBREAKING TECHNOLOGY

IN-SLOT WINDED STATOR

Specifically developed to optimize pump efficiency.

USER-FRIENDLY INTERFACE

Operating panel shows only the most essential performance parameters and clearly indicates flow rate and operating level of pump in relation to maximum capacity. Pump performance can be manually adjusted with one press of a button.



SIMPLICITY DEFINED

the only pump with a built-in

IT **PAYS** TO REPLACE

UPGRADE TO A MAGNA. IT PAYS.

Did you know that more than 150 million circulator pumps are in operation throughout North America and Europe today? And, that most of them are inefficient and an energy-drain?

You can immediately reduce energy consumption by 70 percent or more and save money just by replacing your older, low-efficiency pumps with newer, high-efficiency MAGNA pumps.

In as little as 18 months, you'll notice this upgrade significantly impacts your energy costs and starts to pay you back.

THE BIGGER PICTURE

Replacing functional pumps won't come easy to most folks. However, taking pro-active steps to replace inefficient pumps is part of the bigger picture: your building becomes more energy-efficient, system stress is reduced, comfort is heightened, and reliability is enhanced.

By looking at the bigger picture, you'll be helping to reduce CO₂ emissions and protecting the environment for future generations to come.

ESTIMATE YOUR SAVINGS!

Want to know how much you could save by switching out your existing pump with a new MAGNA? To estimate your cost and energy savings, go to www.grundfos.com/MAGNA and fill out the simple form. You will get your results right away. For a general idea of the savings you can expect, here's an example:

4 x 100W pumps	->	4 x 105 kWh	=	420 kWh
2 x 900W pumps	->	2 x 3880 kWh	=	7760 kWh
2 x 400W pumps	->	2 x 945 kWh	=	2902 kWh

Total estimated savings per year with MAGNA = 11,082 kWh

Estimated savings* for fixed-speed pumps (pre-1997):

Motor** Max. power consumption	Savings (kWh/year)	No. of pumps	Total Sav- ings (kWh/year)
up to 60	152		
61 - 100	129	4	420
101 - 250	571		
251 - 450	1451	2	2802
451 - 800	3186		
801 - 1160	3482	2	7760
1161 - 1550	4353		
			11,082

Estimated savings* for fixed-speed pumps (1997 and after):

Motor** Max. power consumption	Savings (kWh/year)	No. of pumps	Total Sav- ings (kWh/year)
up to 60	93		
61 - 100	116		
101 - 250	305		
251 - 450	1079	2	1890
451 - 800	2415		
801 - 1160	2671		
1161 - 1550	3142		
			1890

* Energy savings obtained by replacing fixed-speed circulator pumps with intelligent speed-controlled pumps.

** See motor name plate for watts reading.

A FRIENDLY INTERFACE

SIMPLICITY BASED ON CAREFUL RESEARCH

Achieving simplicity can be quite a complicated process. When we designed the MAGNA, we set up a team of software designers, industrial designers, and anthropologists.

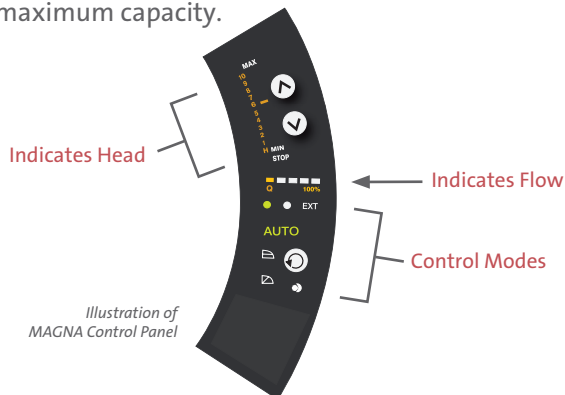
They used extensive research to optimize the human-machine interface. Translation: make the pump easy to install and operate.

This attention to detail is evident in all aspects of Grundfos pumps, such as how they communicate.

THE CONTROL YOU NEED – WITHOUT THE FRILLS

The Grundfos MAGNA is designed to optimize the system it's part of and features all the control and communication functions you need. Nothing more, nothing less.

The MAGNA's operating panel clearly shows the pump's flow rate and operating level compared to its maximum capacity.



Bus communication allows you to use the MAGNA with any building management systems – and you will also benefit from the data communication features of the GENIBus and LONWorks.

The Grundfos R100 remote control provides quick and easy hand-held access to diagnostic information and general performance data.

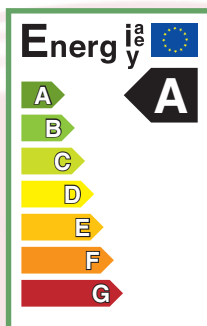
LONWorks Module



GENIBus Module



Grundfos R100 Remote Control



WHAT'S AN "A" RATING?

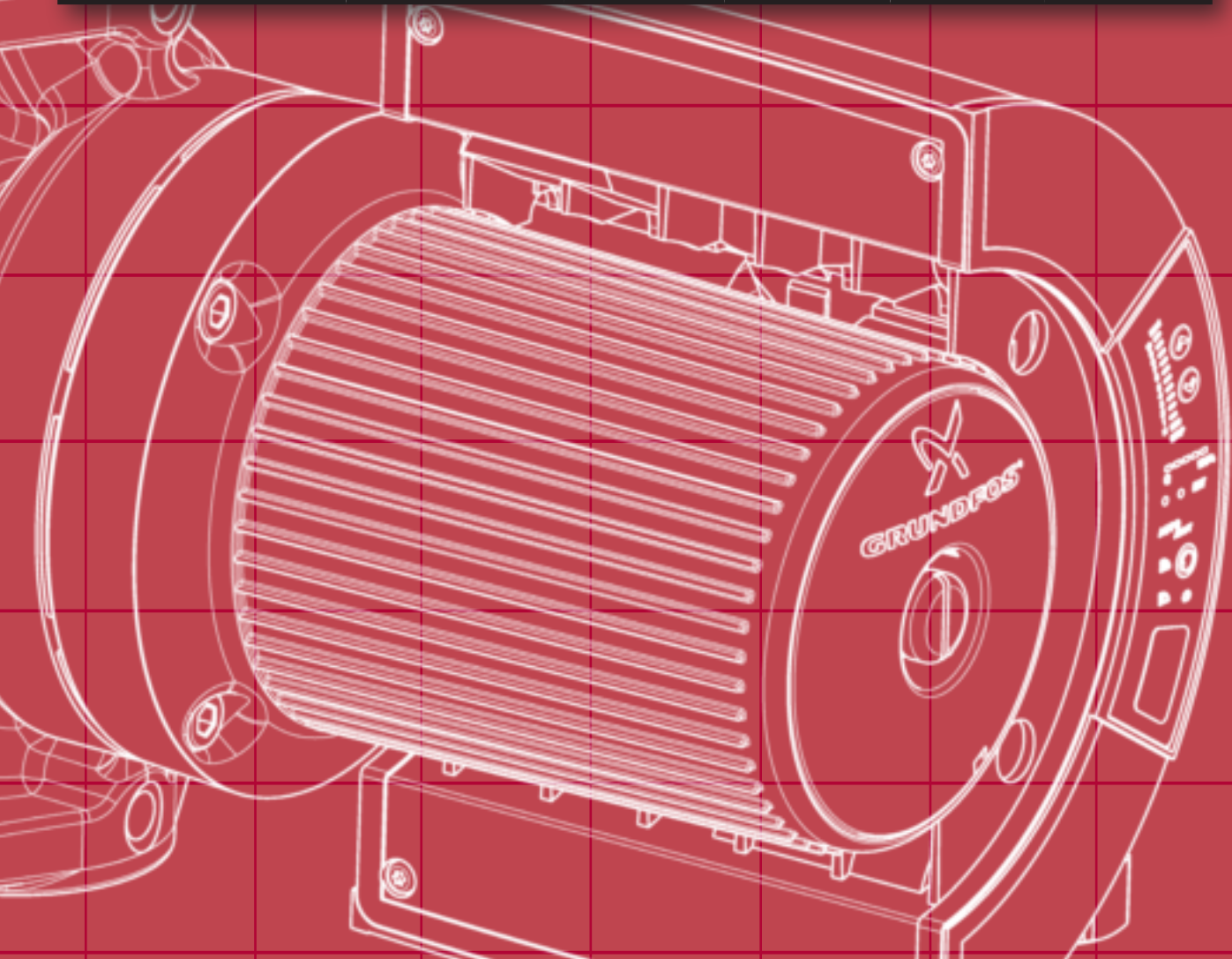
ENERGY LABELING DEFINED

Since 1992, Europe has utilized an energy-labeling scale for household appliances. Energy efficiency is rated on a scale from A to G, with A being the most energy-efficient and G being the least.

In the U.S. market, the average pump is rated the equivalent of a D on this scale. By comparison, the Grundfos MAGNA pump is given the top score: an A for being best in class!

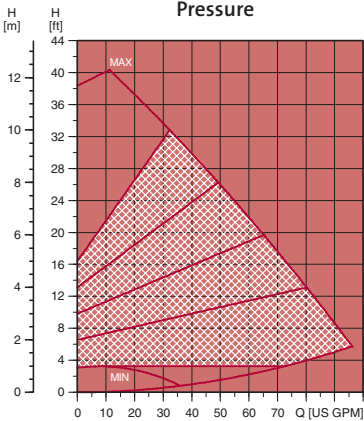
MAGNA TECHNICAL DATA

DESCRIPTION	POWER RANGE (MIN-MAX)	PORT-TO-PORT LENGTH	NOMINAL PIPE CONNECTION	FLANGE TYPE	PART NUMBER
Cast Iron Construction					
MAGNA 65 - 60 F	25 - 450W	11.5"	2.5"	GF53 ¹	96734634
MAGNA 40 - 120 F	25 - 450W	8.5"	1.5"	GF 15/40 ²	96734489
MAGNA 65 - 120 F	35 - 900W	11.5"	2.5"	GF53 ¹	96734640
Stainless Steel Construction					
MAGNA 65 - 60 FN	25 - 450W	11.5"	2.5"	GF53 ¹	96734637
MAGNA 40 - 120 FN	25 - 450W	8.5"	1.5"	GF 15/40 ²	96734633
MAGNA 65 - 120 FN	35 - 900W	11.5"	2.5"	GF53 ¹	96734642
GF53 ¹ – 2", 2-1/2" and 3" NPT thread counter flanges are available.					
GF 15/40 ² – Can be connected to GF 15/26 or GF 40/43 counter flanges; 3/4" to 1.5" NPT thread counter flanges available.					

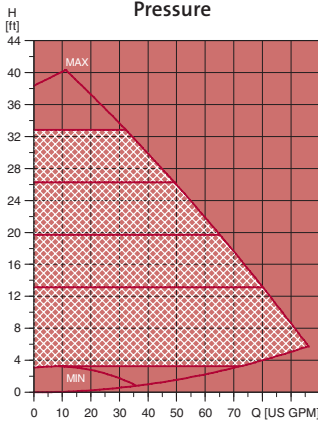


MAGNA 40-120 F

Proportional Differential Pressure

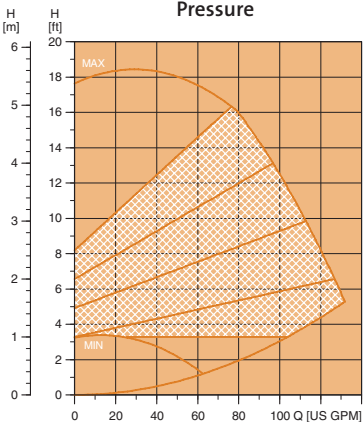


Constant Differential Pressure

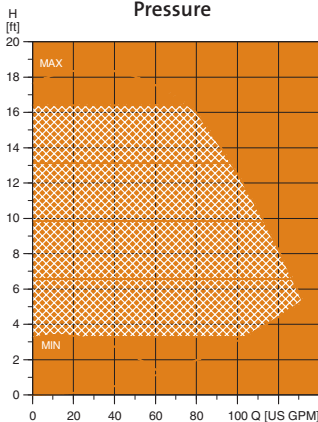


MAGNA 65-60 F

Proportional Differential Pressure

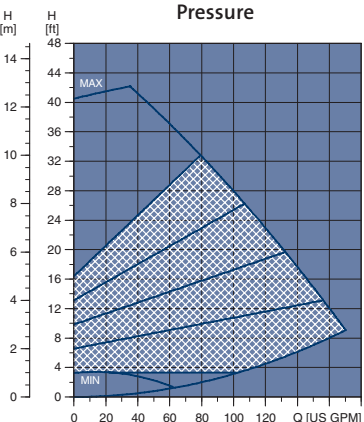


Constant Differential Pressure

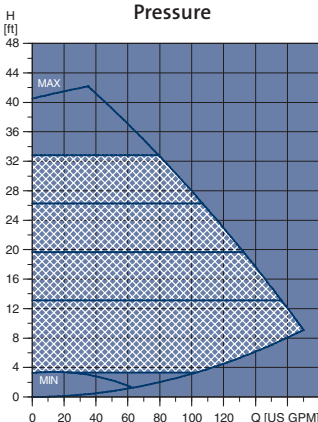


MAGNA 65-120 F

Proportional Differential Pressure



Constant Differential Pressure



APPLICATIONS

HEATING SYSTEMS

- › Main Loop
- › Mixing Loops
- › Heating Surfaces

INSTALLATIONS

- › Universities
- › Apartments
- › Airports
- › Hospitals
- › Government buildings
- › Large buildings

GLOBAL IMPACT

Grundfos Pumps is a global company with more than 14,000 employees and more than 60 sister companies worldwide. As one of the world's leading pump manufacturers, Grundfos produces more than 10 million pump units annually and specializes in pioneering innovative pumping solutions.

MANUFACTURING STANDARDS

As one of the world's leading suppliers of pump technology, Grundfos has a major influence on the levels of manufacturing standards and operating efficiency that can be achieved with pumps.

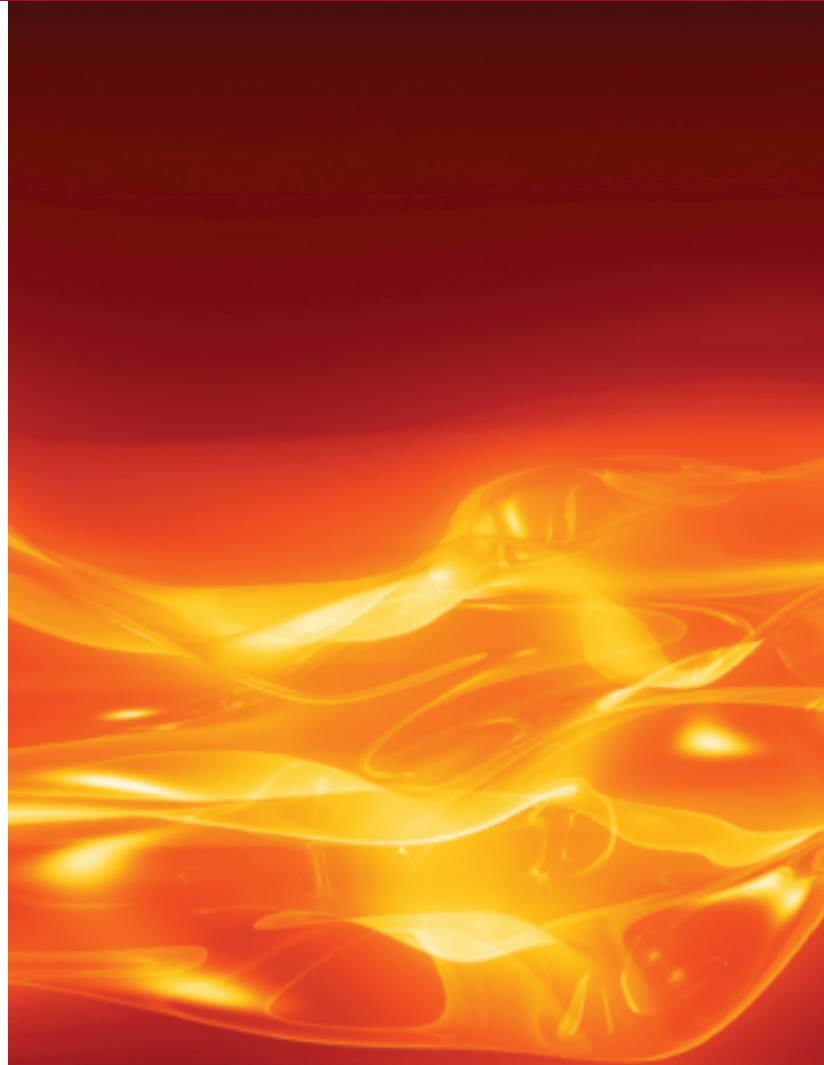
Grundfos' manufacturing facilities throughout the world are certified to ISO 9000 standard or higher. Grundfos pumps are exhaustively checked and tested prior to delivery, and all manufacturing data is fully accessible.

These standards are what allow us to provide our customers with efficient, reliable solutions throughout the entire spectrum of heating and air-conditioning systems and in the transfer of fluids used in industrial processes.

RELIABILITY AND EFFICIENCY

Grundfos solutions meet – and often surpass – virtually all customer requirements for reliability and efficiency, from pumps and pump configurations in all size ranges to the control systems and software.

Our pumps are backed by exceptional customer service and support essential for achieving peak reliability and efficiency. It's our guarantee.

L-MAG-SL-01 11/07 (US)
Subject to alterations

U.S.A.
GRUNDFOS Pumps Corporation
17100 West 118th Terrace
Olathe, Kansas 66061
Phone: (913) 227-3400
Telefax: (913) 227-3500

Canada
GRUNDFOS Canada Inc.
2941 Brighton Road
Oakville, Ontario
L6H 6C9
Phone: (905) 829-9533
Telefax: (905) 829-9512

Mexico
Bombas GRUNDFOS de Mexico S.A. de C.V.
Boulevard TLC No. 15
Parque Industrial Stiva Aeropuerto
C.P. 66600 Apodaca, N.L. Mexico
Phone: 011-52-81-8144 4000
Telefax: 011-52-81-8144 4010