
IT'S TIME TO
DEMAND
MORE
Urell Inc.
Home
AUTOADAPT
13.0 ft
57.2 gpm
BE › THINK › INNOVATE ›
GRUNDFOS

MAGNA3

BE > THINK > INNOVATE >

Grundfos E solutions

Alpha

Magna 3

CRE-DP

VLSE

Hydro MPC

20 | 550 | 600 | 2000 | 4000

Flows gpm

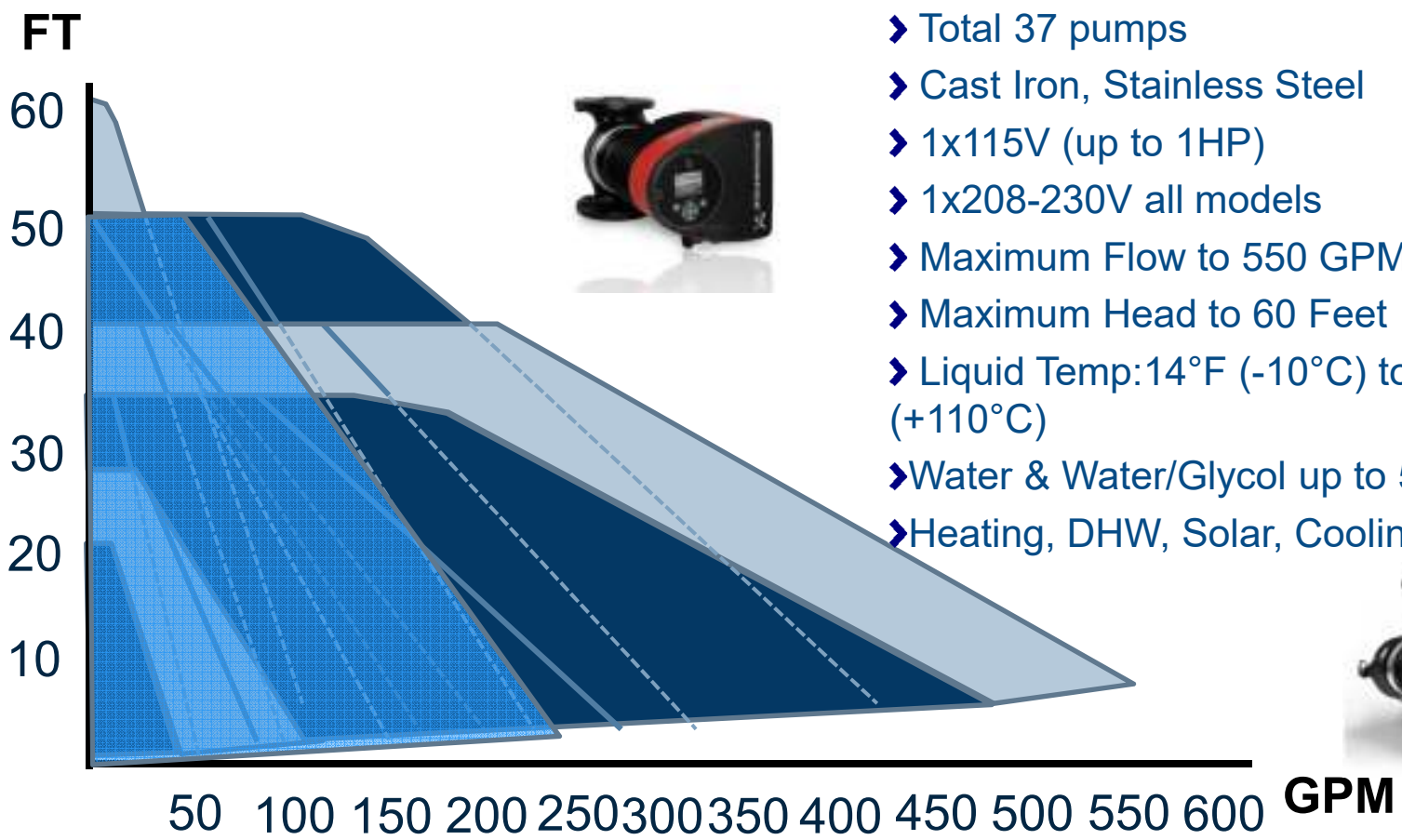
Magna3 Overview

- Range of Operation
- Wet-Rotor Design
- High Efficiency Motor
- Onboard Controls
- Communications

Single Head

Dual Head

Range of Operation



- 14 Hydraulic models (11 single, 3 Twin)
- Total 37 pumps
- Cast Iron, Stainless Steel
- 1x115V (up to 1HP)
- 1x208-230V all models
- Maximum Flow to 550 GPM
- Maximum Head to 60 Feet
- Liquid Temp:14°F (-10°C) to 230°F (+110°C)
- Water & Water/Glycol up to 50%
- Heating, DHW, Solar, Cooling & Geo

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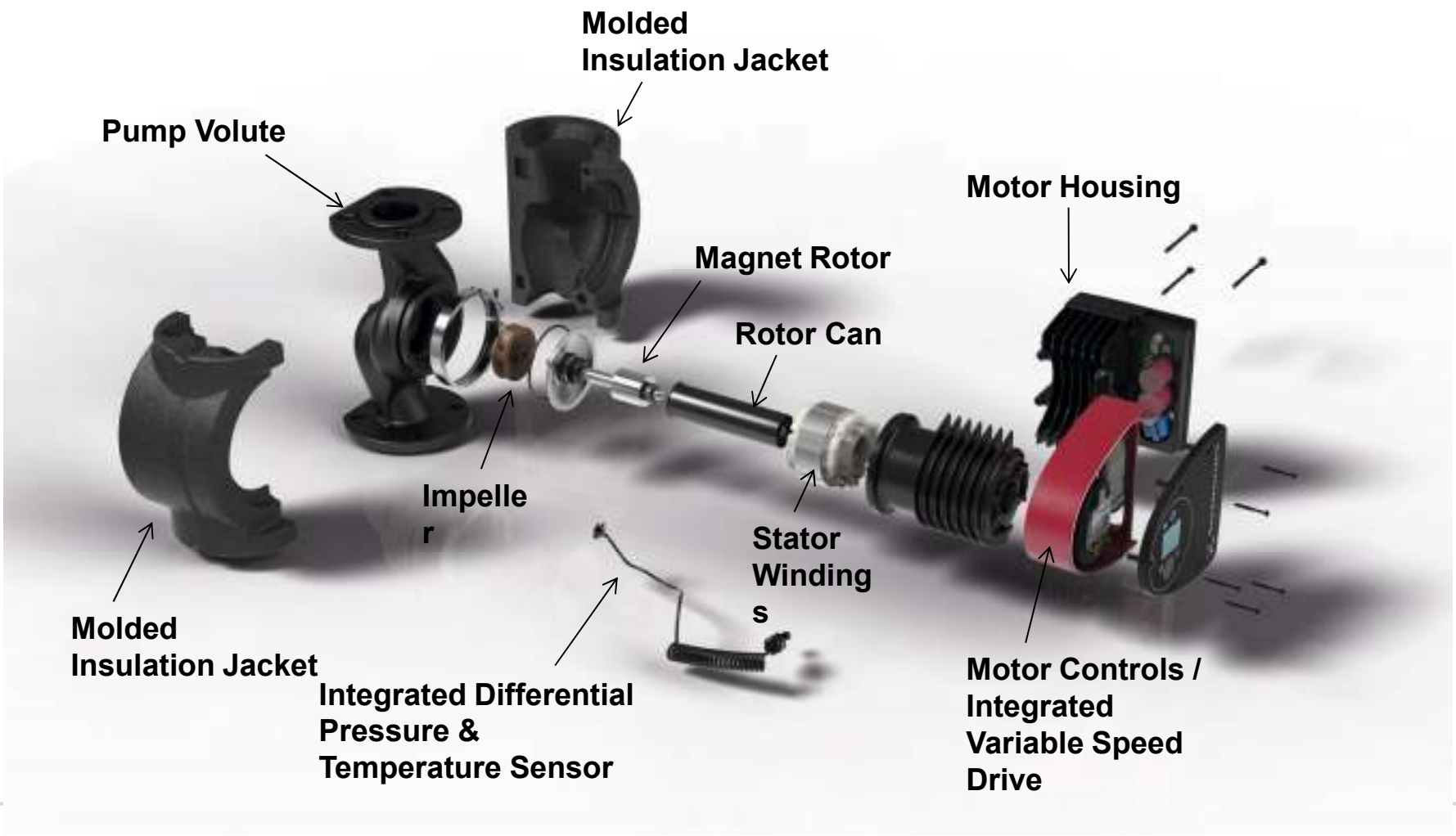
Wet Rotor Design



Wet Rotor Design

Maintenance Free Design…

- No noise – Less than 41dB
- No mechanical seals - No seal leaks or seal failures
- No bearing housing – No bearing failures
- No oil - No maintenance requirements
- No accessible electrical components – No risk of touching “hot” windings.

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Grundfos E-Solutions “Is Bigger always better”

..\Magna 3\youtube Isolutions\IS BIGGER ALWAYS BETTER.mp4

Onboard Controls

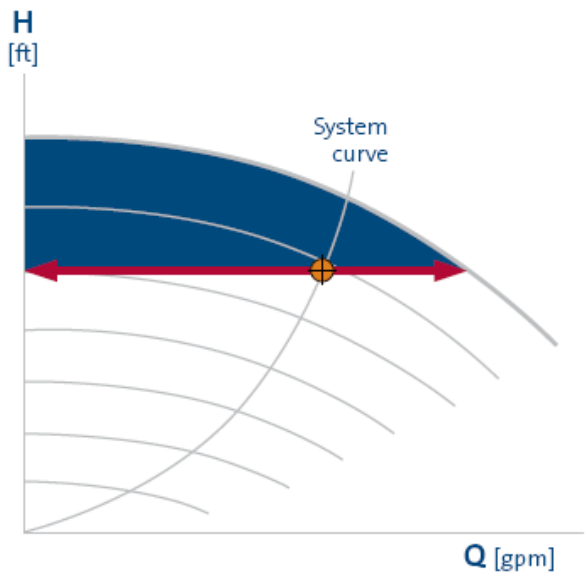
- Integrated VFD
- Completely Programmed
- Multiple Control Modes
- Built In Communications

Multiple Control Modes

- Constant pressure
- Proportional pressure
- AutoADAPT
  - FlowADAPT
- Constant temperature
- Constant differential temperature
- Constant curve
- BMS input

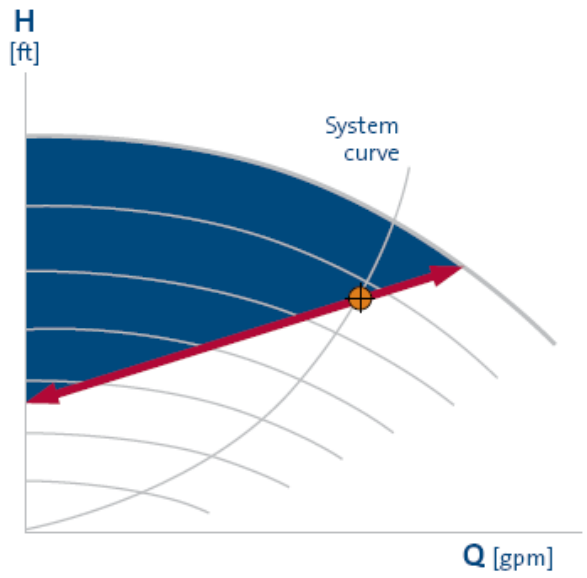
Control Modes – HVAC (closed loop) Systems

Constant pressure mode



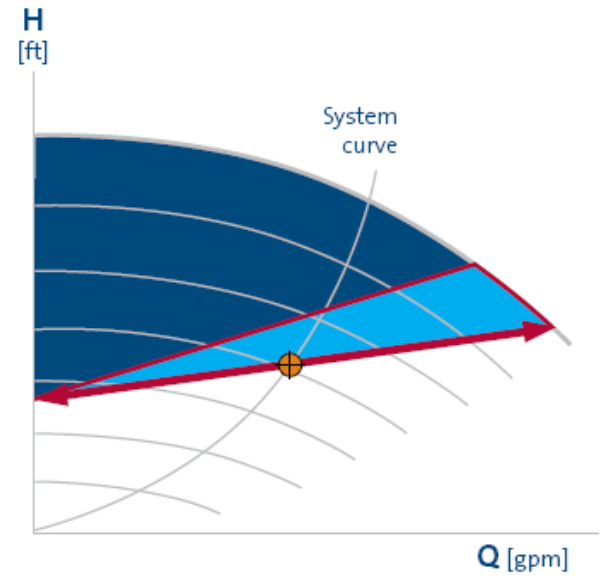
Constant pressure mode is suited for variable flow systems with very low pipe pressure losses, and in open systems where pipe pressure loss is subordinate to static head.

Proportional pressure mode



Proportional pressure mode is used in circulating systems. The pump continuously adapts its performance to the varying flow demand.

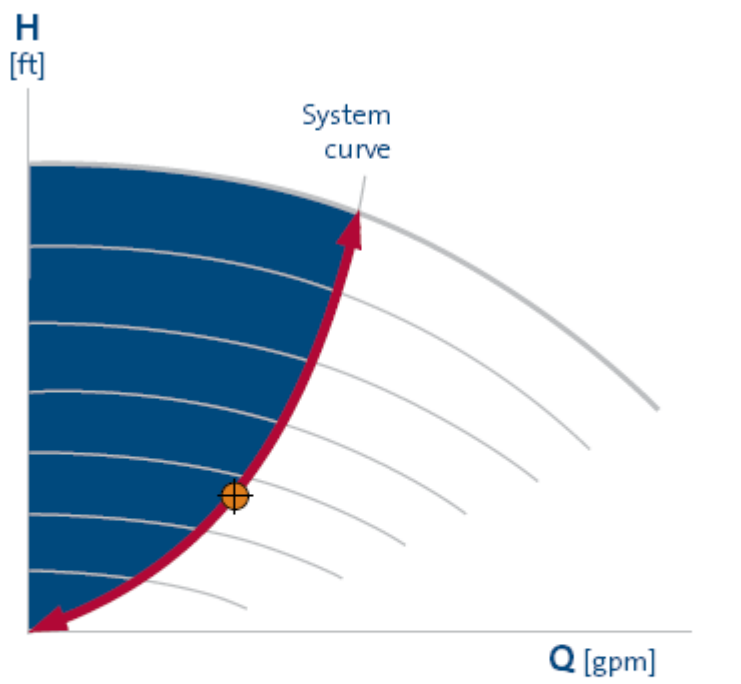
AUTO*ADAPT*



The AUTO*ADAPT* function continuously adjusts the proportional pressure curve and automatically sets a more efficient one, without compromising comfort demands. With this factory setting, in 80% of the installations no manual adjustments are needed.

Domestic Hot Water Recirculation

Constant temperature mode



Constant temperature mode is used in variable flow systems within heating, where a constant liquid temperature at a user-defined point, is desired. The pump is in charge of the flow, and external controller for temperature regulation are made unnecessary.

Magna3 Overview

- Range of Operation
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- High Efficiency Motor
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- Communications

Single Head

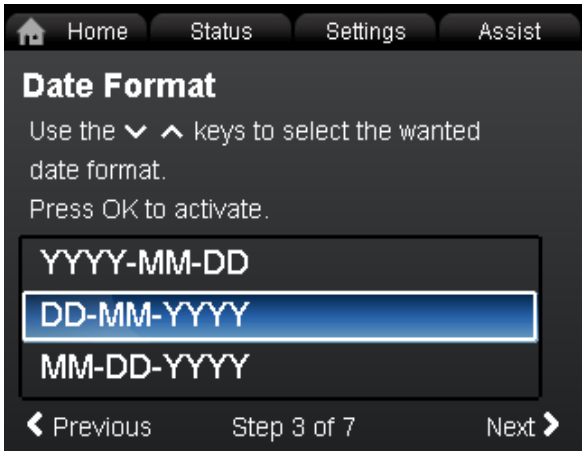
Dual Head

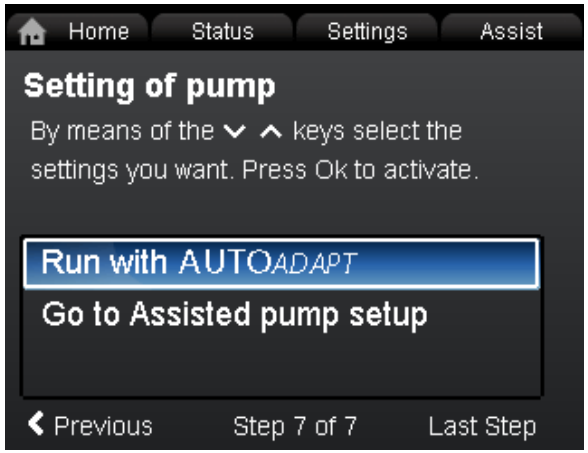
Communications

Intelligent Interface

Communications

Intelligent Interface - Startup





Communications

GRUNDFOS GO

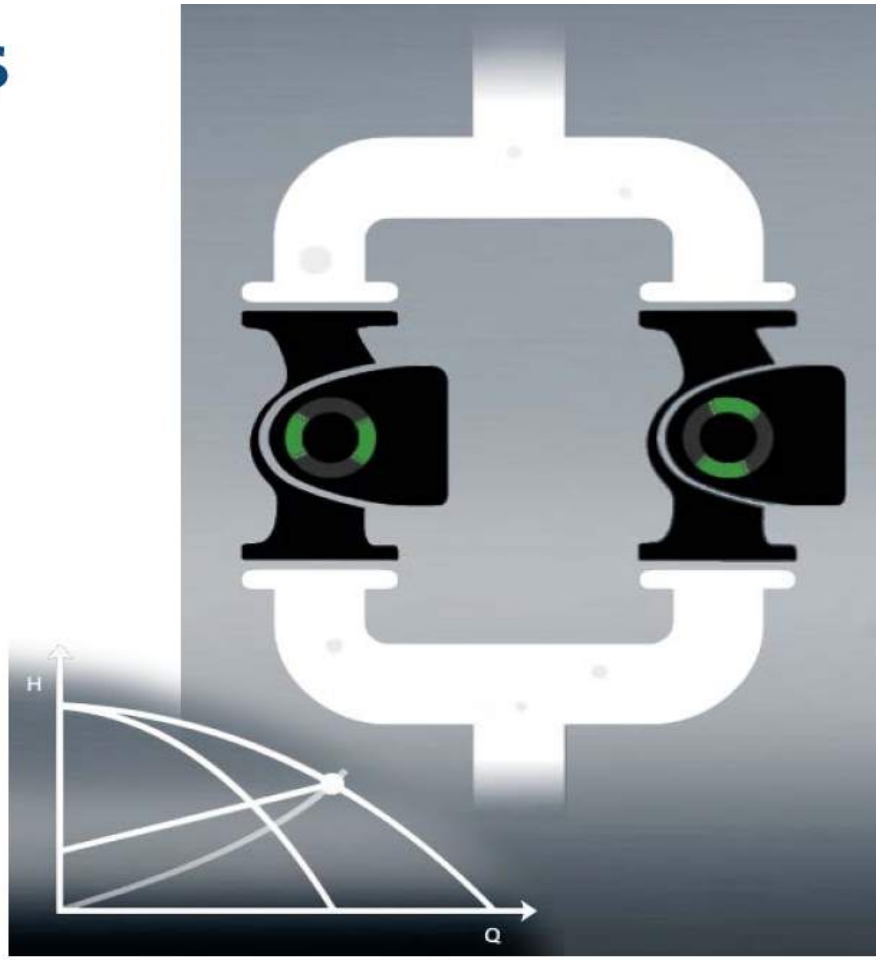
INTELLIGENCE IN THE MAGNA3

- Save time with the intuitive handheld pump control
- Save and share reports easy and electronically
- Access to online replacement and sizing tools
- Everything you need – on the GO

Communications

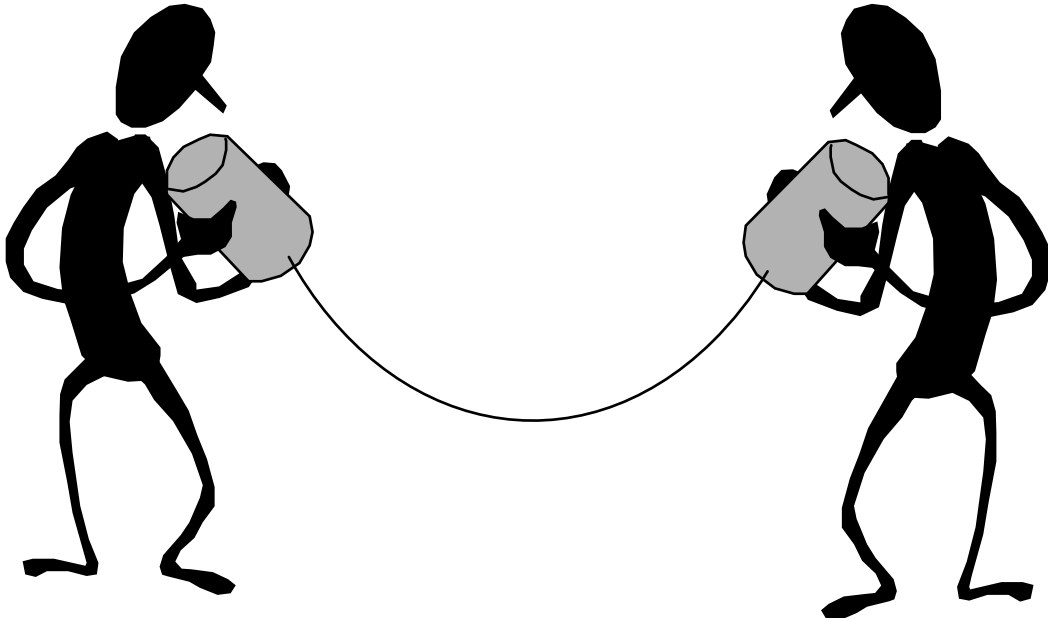
Two-pump wireless connection

- Integrated wireless technology enables interaction between two MAGNA3 pumps
- Connection to a parallel coupled pump is quickly and easily obtained with the built-in wizard or Grundfos GO
- Two parallel coupled pumps can be controlled jointly in cascade mode, alternating mode or pump back-up mode



Grundfos E-Solutions “Communication”

- ..\Magna 3\youtube Isolutions\ARE WE SPEAKING THE SAME LANGUAGE.mp4



Communications

Analog & Digital Inputs/Outputs

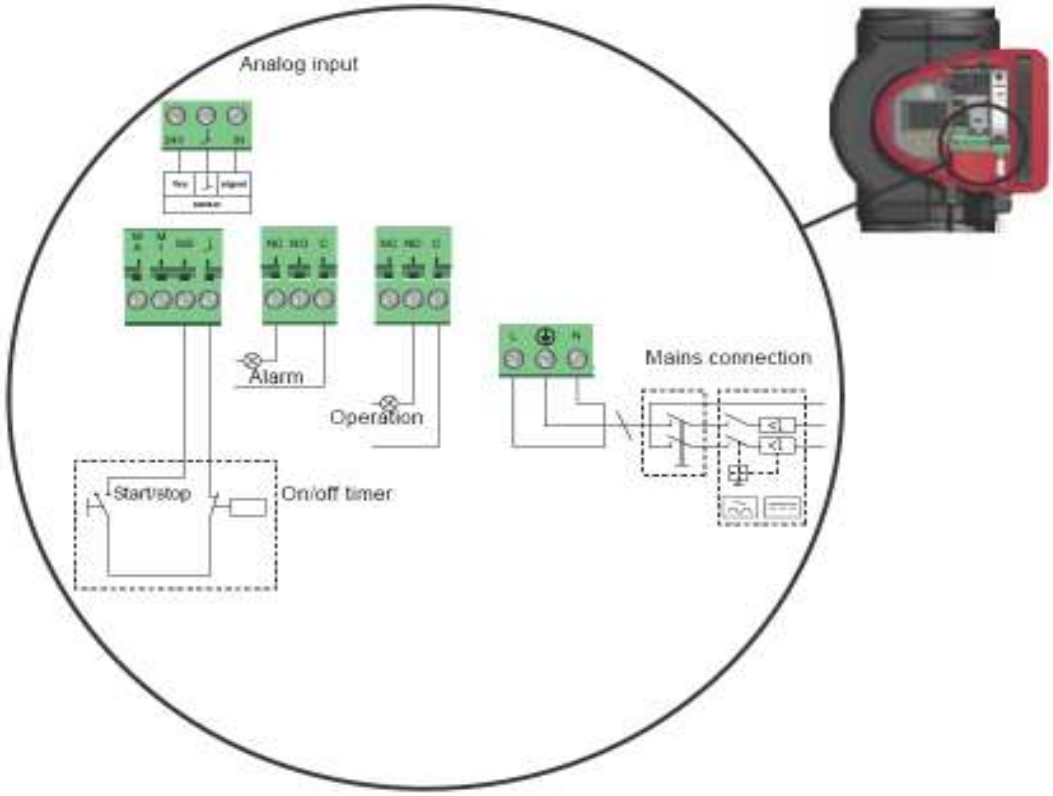


Fig. 37 Example of connections in the control box

- Digital Inputs
  - External start/stop
  - Forced min/max
- Relay Outputs
  - 2 signal relays
  - Alarm, Ready or Operation
- Analog Input for external sensor

Communications

CIM Module delivers the pump data to the BMS System

Communications

CIM Module eliminates the need for additional monitoring equipment and data point integration

Operating Mode
Set Point
Control Mode
Alarm/Warning
Power and Energy
Head
Flow
Speed and Frequency
Digital Input / Output
Motor Current
Liquid Temperature

Operating Hours
Total On Time
Number of Starts
Return Temperature
BTU
BTU/Hr
Differential Temperature
and more…..

Magna 3 applications

Domestic Hot Water Return

Redundant Hot Water pump

Magna 3 Domestic Hot Water Return

- Built in Temperature sensor
- Set desired return water temperature on pump

Magna 3 application

- Duel Head Magna 3 Cascading pumps

Magna 3 application

- Existing End Suction
- 6000 kWhr/a EACH
- 12000 kWhr/a Total

- New Magna 3 circulator with onboard control logic
- 748 kWhr/a Each
- 1496 kWhr/a Total

Total Energy Savings 11,252 kWhr/a ($2025/ year*)
*based on $.18/kWhr

CRE-DP Vertical inline HVAC pump

- Vertical Inline Multi Stage
- Integrated MLE motor and Drive
- Small Foot print
- Reduced maintenance requirements
- Stand alone control logic or with BMS
- Proportional Differential control logic
- Flows to 600 gpm

CRE-DP Vertical Inline HVAC pump

- Redundant CRE-DP Chilled Water

CRE-DP Vertical Inline HVAC pump

Grundfos VLSE

VLSE
In-Line Type VLSE
(Split Coupled, In-Line)

Features and Benefits:

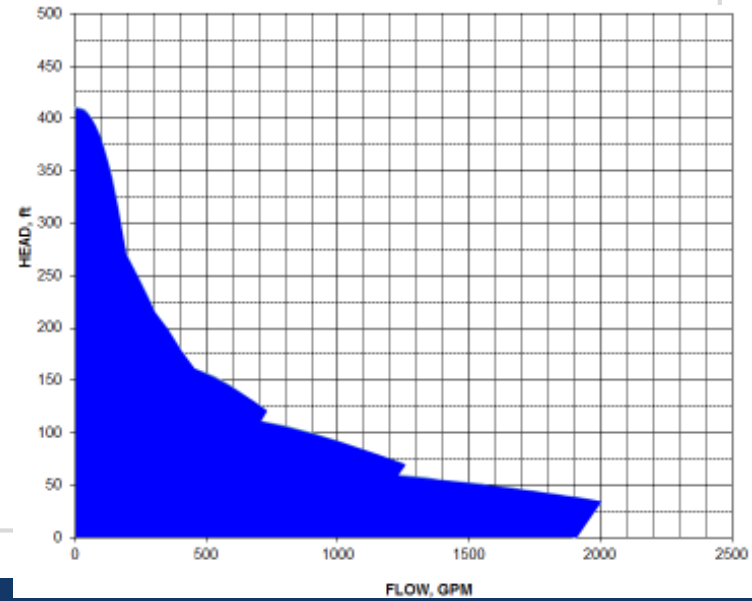
- All in one, integrated off-the-shelf drive, control, motor solution to capture the maximum in energy savings
- Vertical in-line mounting saves floor space
- Eliminates coupling alignment, its costs, and speeds installation
- Eliminates baseplate grouting, its cost and minimizes installation time
- Service friendly design allows rapid mechanical seal access without motor removal
- Lower weight offers installation ease
- Grundfos GO compatible

Applications:

- Chilled water
- Condensed water
- Hot water
- District Cooling/Heating Systems
- Air Conditioning
- Cooling tower
- Pressure boosting

Technical Data	VLSE
Flow, Q	15 to 1500
Head, H	15 to 350
Discharge Sizes	1.25" to 8"
HP/Speed Range	3 to 30 HP-3500RPM
	3 to 25 HP-1750RPM

VLSE Performance Range



Hydro MPC modular pumping system

Modular Pumping system N+1

VS

Traditional Built onsite
100% Redundant

Hydro MPC Modular Pumping System

Chilled Water pumps

Condenser Water pumps

Communications

Grundfos E-solutions are much more that pumps

- Temperature
- Speed
- Flow
- Power
- Head
- Energy
- BTU
- History

Take off of Boston High Rise

Pump ID, Location, Tag, and Duty								Replacement				Savings
Pump ID	Hours	GPM	Head	HP	Pump Eff	Motor Eff	Annual KWH	Model	Material #	Eta%	Annual KWH	Annual (kwh)
1153	2370	175	110	10	67%	89.5%	14,333	CRE-DP 32-2-1 7.5hp, 3x460-480, CI/304 SS, 2 1/2" ANSI Flg 125lb	98696746	65%	4,739	9,593
1154	750	114	95	5	62%	87.5%	2,821	CRE-DP 32-2-1 7.5hp, 3x460-480, CI/304 SS, 2 1/2" ANSI Flg 125lb	98696746	65%	844	1,977
1155	2370	133	100	7 1/2	64%	89.5%	10,367	CRE-DP 20-3 7.5hp, 3x460-480, CI/304 SS, incl. flange set, 2" NPT	98696737	65%	3,274	7,092
1156	750	107	95	3	60%	87.5%	2,736	CRE-DP 20-3 7.5hp, 3x460-480, CI/304 SS, incl. flange set, 2" NPT	98696737	65%	792	1,944
1161	2370	175	110	10	67%	89.5%	14,333	CRE-DP 32-2-1 7.5hp, 3x460-480, CI/304 SS, 2 1/2" ANSI Flg 125lb	98696746	65%	4,739	9,593
1160	750	114	95	5	62%	87.5%	2,821	CRE-DP 32-2-1 7.5hp, 3x460-480, CI/304 SS, 2 1/2" ANSI Flg 125lb	98696746	65%	844	1,977
1158	2370	133	100	7 1/2	64%	89.5%	10,367	CRE-DP 20-3 7.5hp, 3x460-480, CI/304 SS, incl. flange set, 2" NPT	98696737	65%	3,274	7,092
1157	750	107	95	3	60%	87.5%	2,736	CRE-DP 20-3 7.5hp, 3x460-480, CI/304 SS, incl. flange set, 2" NPT	98696737	65%	792	1,944
1176	8760	15	15	1/12	40%	40.0%	2,321	MAGNA3 32-60 SS 1x115/208-230V	98126822	55%	242	2,079
1174	4380	20	40	1/2	40%	40.0%	4,126	MAGNA3 40-80 SS 1x115 GF15/43	98126802	65%	364	3,762
1175	4380	20	40	1/2	40%	40.0%	4,126	MAGNA3 40-80 SS 1x115 GF15/43	98126802	65%	364	3,762
1163	8760	15	15	1/12	40%	40.0%	2,321	MAGNA3 32-60 SS 1x115/208-230V	98126822	55%	242	2,079
1163	4380	20	40	1/2	40%	40.0%	4,126	MAGNA3 40-80 SS 1x115 GF15/43	98126802	65%	364	3,762
1163	4380	20	40	1/2	40%	40.0%	4,126	MAGNA3 40-80 SS 1x115 GF15/43	98126802	65%	364	3,762
1164	8760	15	15	1/12	40%	40.0%	2,321	MAGNA3 32-60 SS 1x115/208-230V	98126822	55%	242	2,079
1164	4380	20	40	1/2	40%	40.0%	4,126	MAGNA3 40-80 SS 1x115 GF15/43	98126802	65%	364	3,762
1164	4380	20	40	1/2	40%	40.0%	4,126	MAGNA3 40-80 SS 1x115 GF15/43	98126802	65%	364	3,762
1165	8760	15	15	1/12	40%	40.0%	2,321	MAGNA3 32-60 SS 1x115/208-230V	98126822	55%	242	2,079
1165	4380	20	40	1/2	40%	40.0%	4,126	MAGNA3 40-80 SS 1x115 GF15/43	98126802	65%	364	3,762
1165	4380	20	40	1/2	40%	40.0%	4,126	MAGNA3 40-80 SS 1x115 GF15/43	98126802	65%	364	3,762
1166	2370	133	100	7 1/2	64%	89.5%	10,367	CRE-DP 20-3 7.5hp, 3x460-480, CI/304 SS, incl. flange set, 2" NPT	98696737	65%	3,274	7,092
1167	750	107	95	3	60%	87.5%	2,736	CRE-DP 20-3 7.5hp, 3x460-480, CI/304 SS, incl. flange set, 2" NPT	98696737	65%	792	1,944
1168	750	114	95	5	62%	87.5%	2,821	CRE-DP 32-2-1 7.5hp, 3x460-480, CI/304 SS, 2 1/2" ANSI Flg 125lb	98696746	65%	844	1,977
1169	2370	175	110	10	67%	89.5%	14,333	CRE-DP 32-2-1 7.5hp, 3x460-480, CI/304 SS, 2 1/2" ANSI Flg 125lb	98696746	65%	4,739	9,593
1170	750	114	95	5	62%	87.5%	2,821	CRE-DP 32-2-1 7.5hp, 3x460-480, CI/304 SS, 2 1/2" ANSI Flg 125lb	98696746	65%	844	1,977
1171	2370	175	110	10	67%	89.5%	14,333	CRE-DP 32-2-1 7.5hp, 3x460-480, CI/304 SS, 2 1/2" ANSI Flg 125lb	98696746	65%	4,739	9,593
1172	2370	175	110	10	67%	89.5%	14,333	CRE-DP 32-2-1 7.5hp, 3x460-480, CI/304 SS, 2 1/2" ANSI Flg 125lb	98696746	65%	4,739	9,593
1173	750	114	95	5	62%	87.5%	2,821	CRE-DP 32-2-1 7.5hp, 3x460-480, CI/304 SS, 2 1/2" ANSI Flg 125lb	98696746	65%	844	1,977
1105	8760	15	15	1/12	40%	40.0%	2,321	MAGNA3 32-60 SS 1x115/208-230V	98126822	55%	242	2,079
1106	4380	20	40	1/2	40%	40.0%	4,126	MAGNA3 40-80 SS 1x115 GF15/43	98126802	65%	364	3,762
1107	4380	20	40	1/2	40%	40.0%	4,126	MAGNA3 40-80 SS 1x115 GF15/43	98126802	65%	364	3,762
1118	2370	420	96	15	75%	91.0%	26,376	CRE-DP 90-1 20hp, 3x460-480, CI/304 SS, 4" ANSI Flg 125lb	98696761	65%	9,927	16,449
1119	750	300	72	7 1/2	75%	89.5%	4,546	CRE-DP 90-1 20hp, 3x460-480, CI/304 SS, 4" ANSI Flg 125lb	98696761	65%	1,683	2,864
1116	750	550	46	(10?)	63%	89.5%	6,340	CRE-DP 90-1-1 15hp, 3x460-480, CI/304 SS, 4" ANSI Flg 125lb	98696760	65%	1,971	4,368

Take off of a local university

Pump ID, Location, Tag, and Duty										Replacement				Savings	100%			
Rep ID	Customer ID	Hours	GPM	Head	HP	Power	Pump Eff	Motor Eff	Annual KWH	Model	Material #	Eta%	Annual KWH	Annual (kwh)	Hrs	flow	head	kwh
8124	P-1	4380	25	17	1/6	1x115	40%	40.0%	2,192	MAGNA3 40-80 SS 1x115 GF15/43	98126802	65%	145	2,047	262.8	25.0	12.8	24.3
8125	P-2	4380	10	7	1/25	1x115	40%	40.0%	361	ALPHA 15-55 SF	59896879	37%	42	319	262.8	10.0	5.3	7.0
8126	P-1	4380	25	17	1/6	1x115	40%	40.0%	2,192	MAGNA3 40-80 SS 1x115 GF15/43	98126802	65%	145	2,047	262.8	25.0	12.8	24.3
8127	P-2	4380	20	6	1/12	1x115	40%	40.0%	619	MAGNA1 32-60 SS 1X115 GF15/26	98126821	40%	67	552	262.8	20.0	4.5	11.1
8128	P-1	4380	20	10	1/12	1x115	40%	40.0%	1,031	MAGNA1 32-60 SS 1X115 GF15/26	98126821	40%	111	920	262.8	20.0	7.5	18.6
8129	P-2	4380	20	6	1/12	1x115	40%	40.0%	619	MAGNA1 32-60 SS 1X115 GF15/26	98126821	40%	67	552	262.8	20.0	4.5	11.1
8130	P-1	4380	20	10	1/12	1x115	40%	40.0%	1,031	MAGNA1 32-60 SS 1X115 GF15/26	98126821	40%	111	920	262.8	20.0	7.5	18.6
8131	P-2	4380	20	6	1/12	1x115	40%	40.0%	619	MAGNA1 32-60 SS 1X115 GF15/26	98126821	40%	67	552	262.8	20.0	4.5	11.1
8139	PP-1	2500	600	35	7 1/2	3x460	80%	89.5%	13,813	50707-4P-7.5HP VLSE	50707 VLSE	65%	4,090	9,723	150.0	600.0	26.3	684.7
8140	PP-2	2500	600	35	7 1/2	3x460	80%	89.5%	13,813	50707-4P-7.5HP VLSE	50707 VLSE	65%	4,090	9,723	150.0	600.0	26.3	684.7
8141	PP-3	2500	600	35	7 1/2	3x460	80%	89.5%	13,813	50707-4P-7.5HP VLSE	50707 VLSE	65%	4,090	9,723	150.0	600.0	26.3	684.7
8143	P-1	4380	20	6	1/12	1x115	40%	40.0%	619	MAGNA1 32-60 SS 1X115 GF15/26	98126821	40%	67	552	262.8	20.0	4.5	11.1
8144	P-2	4380	20	6	1/12	1x115	40%	40.0%	619	MAGNA1 32-60 SS 1X115 GF15/26	98126821	40%	67	552	262.8	20.0	4.5	11.1
8145	P-1	4380	20	6	1/12	1x115	40%	40.0%	619	MAGNA1 32-60 SS 1X115 GF15/26	98126821	40%	67	552	262.8	20.0	4.5	11.1
8146	P-2	4380	20	6	1/12	1x115	40%	40.0%	619	MAGNA1 32-60 SS 1X115 GF15/26	98126821	40%	67	552	262.8	20.0	4.5	11.1
8147	P-1	4380	25	17	1/6	1x115	40%	40.0%	2,192	MAGNA3 40-80 SS 1x115 GF15/43	98126802	65%	145	2,047	262.8	25.0	12.8	24.3
8148	P-2	4380	20	6	1/12	1x115	40%	40.0%	619	MAGNA1 32-60 SS 1X115 GF15/26	98126821	40%	67	552	262.8	20.0	4.5	11.1
8149	P-1	4380	25	17	1/6	1x115	40%	40.0%	2,192	MAGNA3 40-80 SS 1x115 GF15/43	98126802	65%	145	2,047	262.8	25.0	12.8	24.3
8150	P-2	4380	20	6	1/12	1x115	40%	40.0%	619	MAGNA1 32-60 SS 1X115 GF15/26	98126821	40%	67	552	262.8	20.0	4.5	11.1
									58,199				13,714	44,485				

MAGNA3

Thank you for your time!

BE > THINK > INNOVATE >