



**DESIGN  
ENVELOPE®**



**COMPASS®**

**Intelligent DEPM  
Dry Rotor design**

COMPASS R CERTIFIED TO NSF-61 & 372  
COMPASS H CERTIFIED TO NSF-372

**Lowest operating cost with our  
Design Envelope Technology**

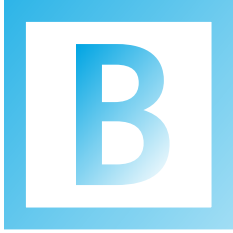
**Ideally suited for both new and  
retrofit installations**

**YEAR 2<sup>1</sup>/<sub>2</sub>  
WARRANTY**

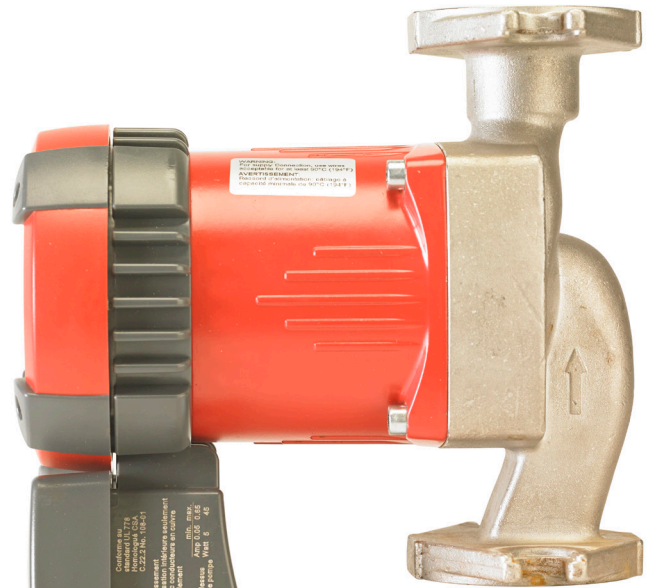
**SOLUTION OUTLINE**

FILE NO: 10.19  
DATE: JANUARY 2021

SUPERSEDES: NEW  
DATE: NEW



**uilt-in Intelligence and ECM efficiency make Compass the best circulator for your building.**



**VALUE FOR CONTRACTORS**

Patented Auto setting makes startup simple

Easy access to terminal block

Quick release clamp makes repairs a snap

Labor savings from easy installation

Connect to external components with integrated 0-10V DC Input

**Design Envelope technology with first-in-industry dry rotor permanent magnet motor,**

**VALUE FOR OWNERS**

Out-of-the-box optimum energy savings and reduced carbon footprint with Design Envelope technology foot print

Up to 25% energy savings over standard ECM variable speed circulators

Up to 80% energy savings compared to traditional fixed-speed circulators

Reliable design includes built-in mechanical and electronic protection

Lowest lifecycle cost - energy savings combined with reliable low-maintenance design minimizes operating costs



# EXPERTISE AND EXPERIENCE

With Design Envelope technology, COMPASS circulators cover a wide performance range

Easy upgrade for current installed models of two-piece and three-piece circulators, with no piping modifications

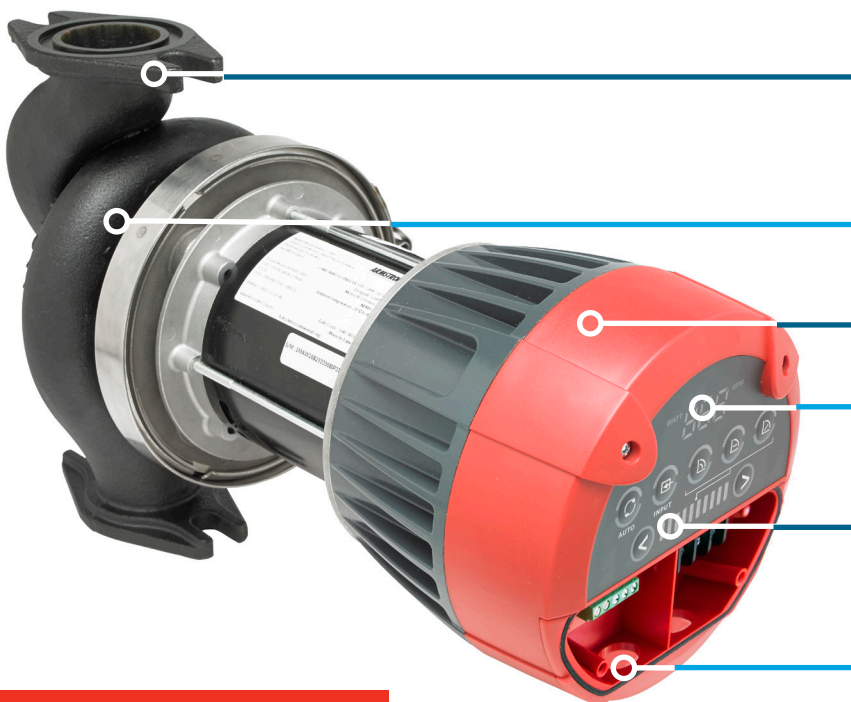
Multiple control options, including

Auto mode, simplify selection and commissioning

Oversized terminal box

Posi-Start technology ensures smooth start-up and protects the circulator

## KEY FEATURES OF COMPASS R & H



Bolt-for-bolt connection compatibility with installed base of two and three-piece and wet rotor circulators, stainless steel and ductile iron models

Optimized hydraulics with a high-efficiency dry rotor design

Permanent Magnet motor plus Design Envelope variable speed technology and Posi-Start

Easy-to-read control panel

Multiple control options including patented\*\* auto mode which adjusts the speed to match flow demand

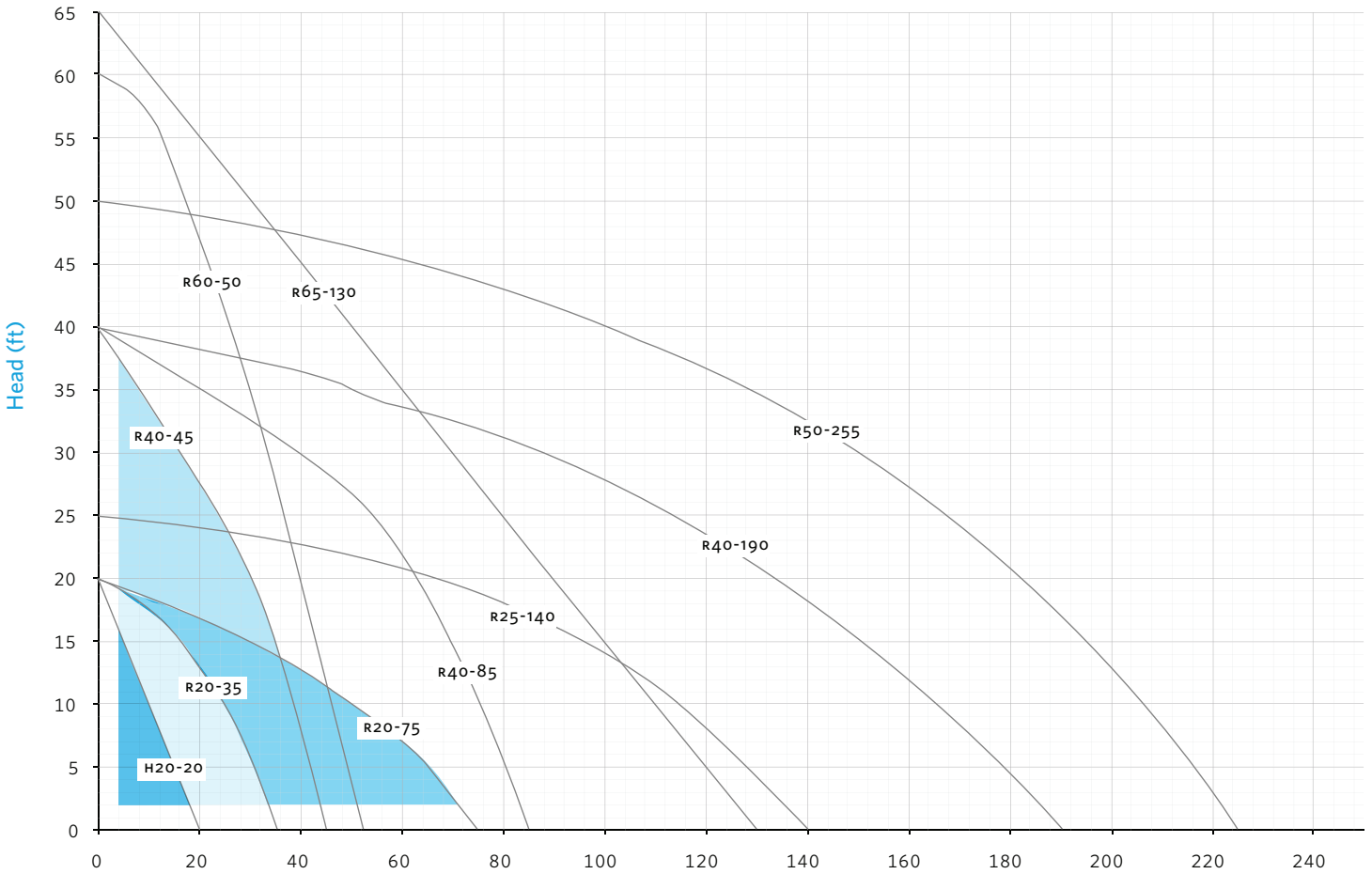
\*\* Patent # 050868

Easy access to terminal block for wiring

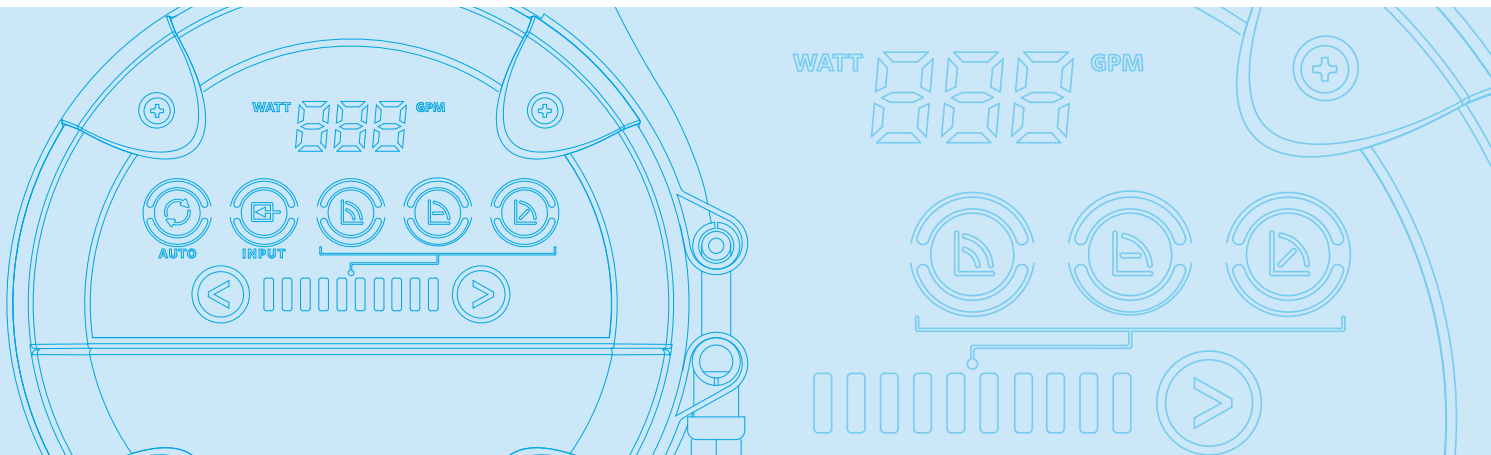


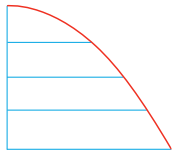
Selectable by model name  
or by flow and head pressure

## Compass R Selection Guide



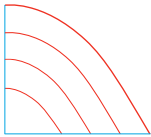
Selecting the optimum circulator based on design duty point is as easy as finding the rated flow and head pressure on the selection chart above.





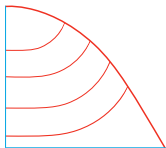
### Fixed head mode

A constant pressure is maintained for any flow rate. The head pressure is selected on the control panel.



### Fixed speed mode

For any flow the speed of the pump is maintained. The speed setting must fit the site conditions and is selected on the control panel.



### Proportional pressure mode

The circulators head pressure increases or decreases based on the flow increasing or decreasing. The maximum head is selected on the control panel.

### AUTO/EXTERNAL CONTROL

- AUTO (default) - adapts to system demand over time
- 0-10 V DC external control INPUT

### MANUAL CONTROL OPTIONS

- Fixed Head Curve
- Fixed Speed Curve
- Proportional Pressure Curve






## Control panel and mode selection



Five light fields, 10 level indicators

## NUMBER OF SPEED SETTINGS PER PUMP

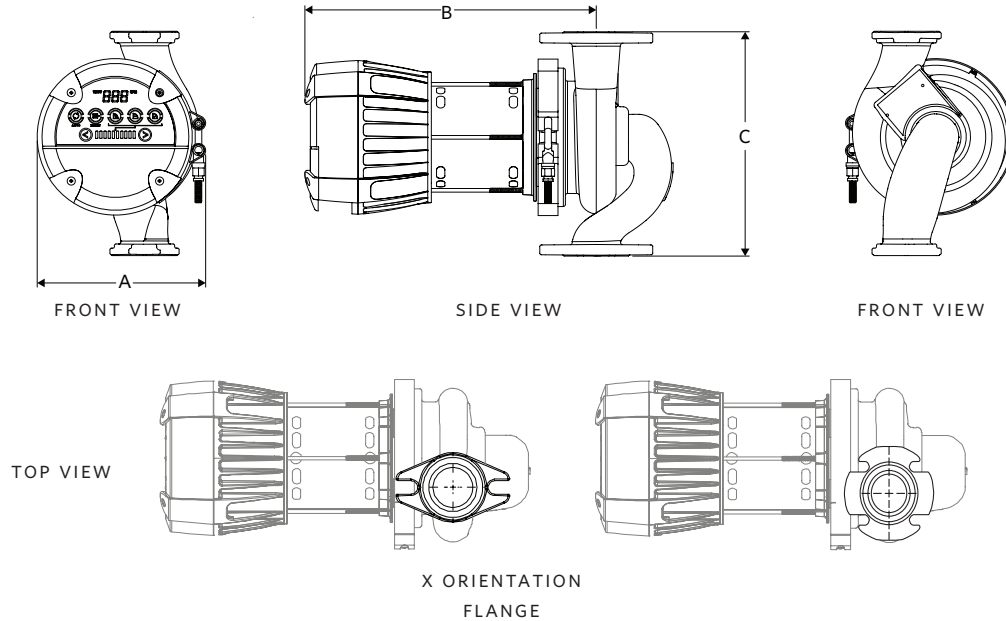
MODEL	MAX. LEVELS
COMPASS H20-20*	3
COMPASS R20-35*	3
COMPASS R25-30*	3
COMPASS R40-45*	6
COMPASS R20-75*	3
COMPASS R60-50	8
COMPASS R40-85	6
COMPASS R25-140	5
COMPASS R40-190	6
COMPASS R50-225	8
COMPASS R65-130	10

The Proportional Pressure (  ), Fixed Head (  ), and Fixed Speed (  ) curves default to the maximum level, and can be decreased/increased using the Mode Select buttons. The maximum level is indicated by dim lights; the levels brightens when increased or dims when decreased. See the list below for the maximum levels per Compass R model.

\* The Red highlighted models are available today.

## COMPASS R DIMENSIONS AND MOTOR DETAILS

HYDRAULIC MODEL	PORT TO PORT (INCH)	HP.	VOLTAGE	CONNECTION	FLANGE ORIENTATION	BOLT CIRCLE DIA. (IN)	DIMENSIONS (INCHES)			WEIGHT lbs (kg)
							A	B	C	
20-35	6.5	3/8	115 /1 PH/ 50/60	2 bolt flange	Y	3.16 - 3.44	6.38 (162)	11.46 (291)	6.50 (165)	10.21 (4.63)
20-75*	8.5	3/4	115 /1 PH OR 208-240V /	2 bolt flange	X	3.16 - 3.44	6.38 (162)	11.04 (280)	8.50 (216)	17.82 (8.11)
40-45	6.4	3/4	1 PH/ 50/60	4 bolt flange	N/A	3.16	6.38 (162)	11.46 (291)	6.50 (165)	10.21 (4.63)



**TORONTO**  
+1 416 755 2291

**BUFFALO**  
+1 716 693 8813

**BIRMINGHAM**  
+44 (0) 8444 145 145

**MANCHESTER**  
+44 (0) 8444 145 145

**BANGALORE**  
+91 (0) 80 4906 3555

**SHANGHAI**  
+86 (0) 21 5237 0909

**SÃO PAULO**  
+55 11 4785 1330

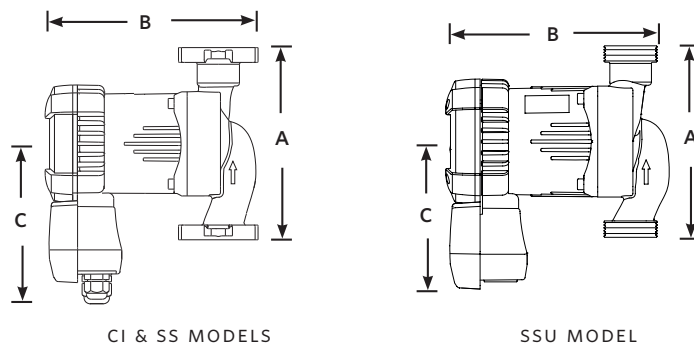
**LYON**  
+33 (0) 420 102 625

**DUBAI**  
+971 4 887 6775

**MANNHEIM**  
+49 (0) 621 3999 9858

## COMPASS H DIMENSIONS AND MOTOR DETAILS

HYDRAULIC MODEL	PORT TO PORT (INCH)	HP.	VOLTAGE	DIMENSIONS (INCHES)		
				A	B	C
H20-20 Flange	45	3/8	115 /1 PH/50/60	6.375	7.08	4.61
H20-20 Union	45	3/4	115 /1 PH/50/60	6	7.08	4.61



ARMSTRONG FLUID TECHNOLOGY  
ESTABLISHED 1934

ARMSTRONGFLUIDTECHNOLOGY.COM