



DESIGN ENVELOPE

COMPASS R

Intelligent High Efficiency Design Envelope Dry Rotor design

STAINLESS STEEL MODELS ARE CERTIFIED TO NSF 372 & NSF 61

Lowest operating cost with our Design Envelope Technology

Lowest Lifecycle Cost with the 1st repairable ECM Circulator

Ideally suited for both new and retrofit installations

2 1/2
YEAR WARRANTY

SOLUTION OUTLINE

FILE NO: 10.193
DATE: JANUARY 2025

SUPERSEDES: 10.193
DATE: AUGUST 2021



inally, the 1st intelligent ECM circulator to be serviceable with its dry rotor construction



VALUE FOR OWNERS

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

Lowest Lifecycle Cost - Smallest energy footprint combined with lowest operational costs

Reliable design with built-in mechanical and electronic protection for the circulator

Design Envelope technology with the first combination of permanent magnet motor and dry rotor design in the industry.

VALUE FOR CONTRACTORS

Patented Auto setting makes startup simple

Easy terminal block access

Quick Release clamp makes repairs a snap

Easy installation saves labor

Integrated 0-10VDC input allows connection to external components

Fully Repairable - not a throw-away circulator



Selectable by model name or by flow and pressure requirements.

EXPERTISE AND EXPERIENCE

Design Envelope circulator covers a wide performance range

Easy updating 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

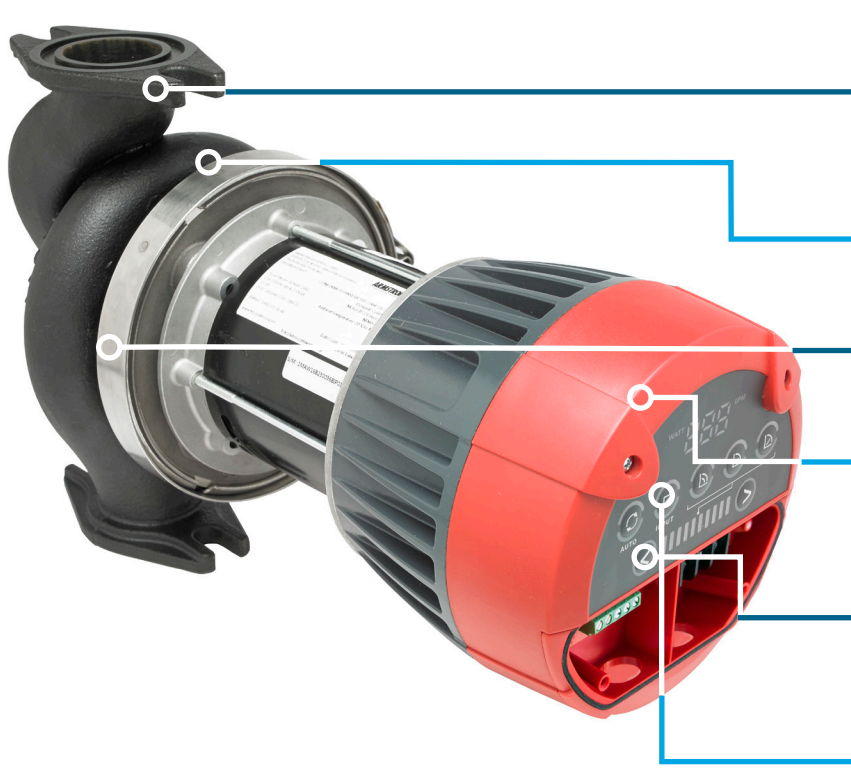
PUMP CAPACITY COMPARISON

COMPASS MODEL	ARMSTRONG MATCH DRY ROTOR CONSTANT SPEED
COMPASS R20-35	S25
COMPASS R40-45	S35, E7-11
COMPASS R20-75	E-13.2, H-41, H-32, S-35, E-16.2
COMPASS R60-50	E12, E14
COMPASS R40-85	H51, H52, H63, E15, E17, E21, E22, S45
COMPASS R25-140	S57, E-33.2
COMPASS R40-190	S57, S69, H53, H54, H66, E-24, E-29
COMPASS R50-225	H67, H68
COMPASS R65-130	H64, H65

See cross reference list for matching competitor models.

* The Red highlighted models are available today.

KEY FEATURES



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

V-Clamp for easy adjustment of the display orientation and reparability

Optimized hydraulics with a high-efficiency dry rotor design

Permanent magnet motor controlled with Design Envelope variable speed technology and Posi-Start

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

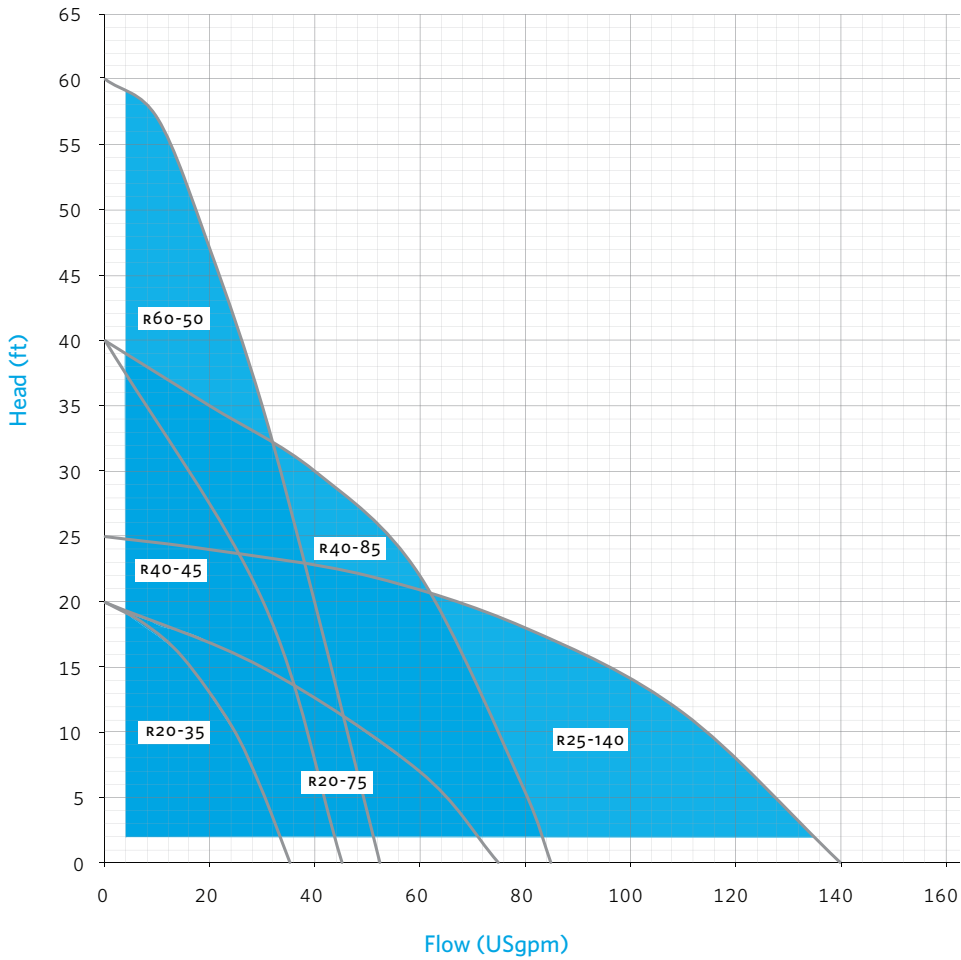
** Patent # 050868

Easy-to-read control panel

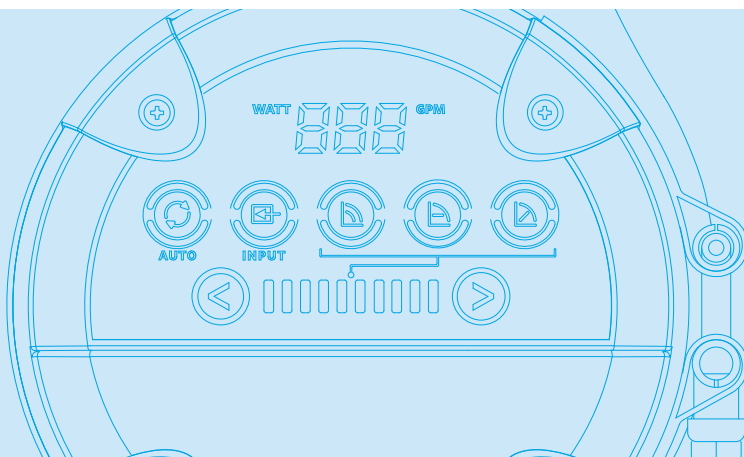
PERFORMANCE

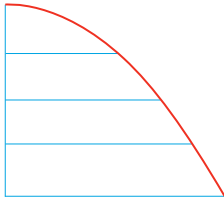
POWER RANGE	1/8 - 1/2hp (124 - 373W)
MAX FLOW RATE	225 gpm (14.2 L/s)
MAX HEAD PRESSURE	65 ft (19.8m)

Compass R Selection Guide



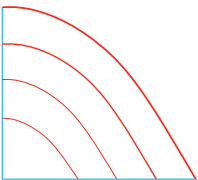
Selecting the optimum circulator based on the design duty point is as easy as finding the rated flow and head on the selection chart above.





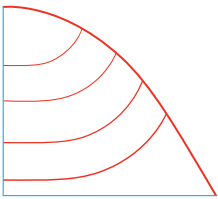
Fixed head mode

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

Circulator pressure output increases or decreases based on increases and decreases in flow. 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

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 cross-reference list for matching competitor models.

NUMBER OF SPEED SETTINGS PER PUMP

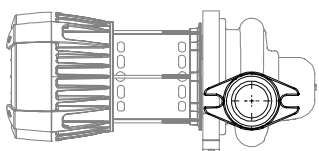
MODEL	MAX. LEVELS
COMPASS R20-35*	3
COMPASS R40-45*	6
COMPASS R20-75*	3
COMPASS R60-50*	8
COMPASS R40-85*	6
COMPASS R25-140*	5
COMPASS R40-190	6
COMPASS R50-225	8
COMPASS R65-130	10

* Red highlighted models are currently available.

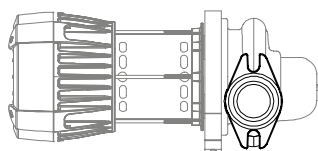
COMPASS R DIMENSIONS AND MOTOR DETAILS

HYDRAULIC MODEL	PORT TO PORT (inch (mm))	HP.	VOLTAGE	CONNECTION	FLANGE ORIENTATION	BOLT CIRCLE DIA. (inch (mm))	DIMENSIONS (inch (mm))			WEIGHT lbs (kg)
							A	B	C	
R20-35	6.5 (165.1)	3/4	1 PHASE 115 V 60HZ	2 BOLT FLANGE	Y	3.16-3.44 (80.2-87.4)	6.38 (162)	11.46 (291)	6.50 (165)	10 (4.5)
R20-75	8.5 (215.9)	3/4		2 BOLT FLANGE	X	3.16-3.44 (80.2-87.4)	6.38 (162)	11.04 (280)	8.50 (216)	18 (8.1)
R40-45	6.5 (165.1)	3/4	1 PHASE 115 V 60HZ OR 208-240V 50/60HZ	2 BOLT FLANGE	Y	3.16-3.44 (80.2-87.4)	6.38 (162)	11.46 (291)	6.50 (165)	10 (4.5)
R25-140	10.0 (254.0)	1/2		4 BOLT FLANGE	N/A	5.06 (128.52)	7.92 (201)	10.75 (273)	10.00 (254)	30 (13.6)
R40-85	8.5 (215.9)	1/2	2 BOLT FLANGE	X	3.16-3.44 (80.2-87.4)	7.07 (180)	11.19 (284)	8.50 (216)	23 (10.4)	
R60-50	6.5 (165.1)	1/2	2 BOLT FLANGE	X	3.16-3.44 (80.2-87.4)	7.09 (180)	10.93 (278)	6.50 (165)	22 (9.9)	

2-BOLT FLANGE

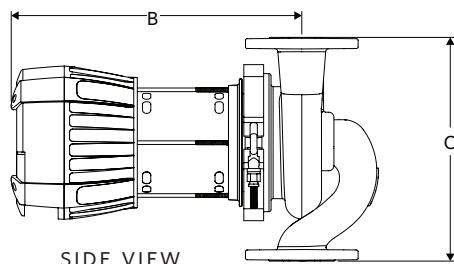
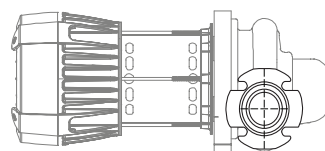


X ORIENTATION FLANGE

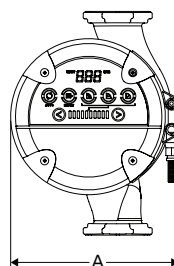


Y ORIENTATION FLANGE

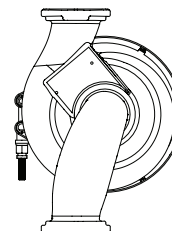
4-BOLT FLANGE



SIDE VIEW



FRONT VIEW



BACK VIEW

TORONTO

+1 416 755 2291

BUFFALO

+1 716 693 8813

DROITWICH SPA

+44 8444 145 145

MANCHESTER

+44 8444 145 145

BANGALORE

+91 80 4906 3555

SHANGHAI

+86 21 5237 0909

BEIJING

+86 21 5237 0909

SÃO PAULO

+55 11 4785 1330

LYON

+33 4 20 10 26 21

DUBAI

+971 4 887 6775

JIMBOLIA

+40 256 360 030

FRANKFURT

+49 6173 999 77 55

For more information, contact your
Armstrong representative or visit us at
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