



DESIGN
ENVELOPE

COMPASS H

new high-efficiency
wet-rotor circulators

STAINLESS STEEL MODELS
CERTIFIED TO NSF 372
 $E\!E\!I \leq 0.22$

VERSATILITY WITH ENERGY SAVING VARIABLE SPEED

Easiest and fastest installation

Broad operating range—up to 20ft
of head or 20USgpm

Lowest energy consumption with
five operating modes including
patented Auto and 0-10V DC

YEAR
WARRANTY
WITH REGISTRATION

SOLUTION OUTLINE

FILE NO: 10.192
DATE: DECEMBER 2018

SUPERSEDES: 10.192
DATE: DECEMBER 2017



The Compass
is the best
circulator for
your building.

VALUE FOR OWNERS

Comfort

Energy savings

Reliability

Reduced carbon footprint

VALUE FOR WHOLESALERS

Broad performance range
covers many applications and
replaces competing models

Easy selection

Reduced inventory requirements

VALUE FOR CONTRACTORS

Easy selection

Reduced storage needs -
one box in your truck covers
dozens of applications

Reliable and easy to install in
the field

ENERGY SAVINGS

FROM 25%
TO 80%

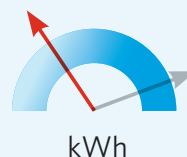


Large wiring
chamber and
front-mounted
terminal block

DESIGN ENVELOPE TECHNOLOGY

- Quadratic Sensorless algorithm saves energy
- Patented Auto* mode optimizes energy savings
- 0-10V DC external speed control

* PATENT PCT/CA/050868



DESIGN ENVELOPE

Design Envelope is a revolution-
ary technology pioneered by
Armstrong that offers simplified
circulator selection, lowest installed cost,
expanded application flexibility and
optimized energy efficiency.

THE MOST CONTROLLABLE CIRCULATOR ON THE MARKET REPLACES 68 TOTAL COMPETITOR CIRCULATORS

Compass Cast Iron (Model No. 180203-686)

GRUNDFOS	WILO	TACO	B&G	ARMSTRONG
ALPHA 15-55	STRATOS ECO 16 RFC	VR1816	ECOCIRC AUTO ECOCIRC VARIO	
UPS 15-42F	START 5FX	007E	NRF-9F,LW	ASTRO 230CI
UPS 15-58FC	STAR 16 F	005-F2-2-IFC	NRF-22	H-41
UPS 26-99FC S1	STAR 21 F	006-F7-IFC	NRF-25 S1,S2	
UPS 43-44FC S1	STAR S 16FX	007-F5-8-IFC	PR SERIES	
UP 15-10F	STAR S 21FX	008-F6-1-IFC	SERIES 100	
		00R-F6-IFC		
		0015-MSF3-IFC		
		0015-MSF3-1-IFC		
		113		

Bolded models are a direct bolt-in replacement, no pipe changes are required.

Compass Stainless Steel (Model No. 180203-687)

GRUNDFOS	WILO	TACO	B&G	ARMSTRONG
ALPHA 15-55S	STRATOS ECO 16 BFX			
UP 26-99BFC	STAR 5 BFX,BU	005-SF2-IFC2	NBF,SSF-12	ASTRO 230SS
UP 15-29SF	STAR 8 BS 5,7	007-SF5-IFC	NBF,SSF-22	H-41
UPS 15-35SFC	STAR 16 BFX	008-SF6-1-IFC, BC6	NBF-25 S1,S2	
UPS 15-55SFC	STAR 21 BFX	00R-BF6-IFC	PR SERIES AB	
UPS 26-99BFC S1	STAR S 16 BFX	0015-MSSF3-IFC	SERIES 100AB	
UPS 43-44BFC S1	STAR S 21 BFX	0015-MSSF3-1-IFC		
		113 B4		

KEY BENEFITS

Energy upgrade for the most popular circulators installed in North America.

The front-mounted terminal block reduces installation time.

Exclusive Quadratic Sensorless algorithm intelligently adapts to system demand to provide superior energy savings.

- Up to 25% more energy savings vs. the competing ECM straight line algorithms.
- Up to 80% more energy savings than traditional fixed speed circulators.

Lowest installed cost - Design Envelope variable speed technology eliminates the need for valves to control flow.

Energy saving with 0-10V DC control capability.

Compass Stainless Steel Union (Model No. 180203-684)

GRUNDFOS	WILO	TACO	B&G	ARMSTRONG
UP 15-18BUC 5,7	STAR 5 BU	006-B4,BC4, BC4-1	NBF-8S,LW	ASTRO 220SSU
UP 15-29SU	STAR 11 BU		NBF,SSU-9U,LW	ASTRO 225SSU
UPS 15-35SUC			NBF-10S,LW	
UP 15-42BUC5,7			NBF,SSU-12U,LW	
			NBF-18S	
			NBF,SSU-22U	

Union models are fully interchangeable with competitors

KEY FEATURES

Broad operating range, producing up to 20 feet of head or 20 USgpm flow

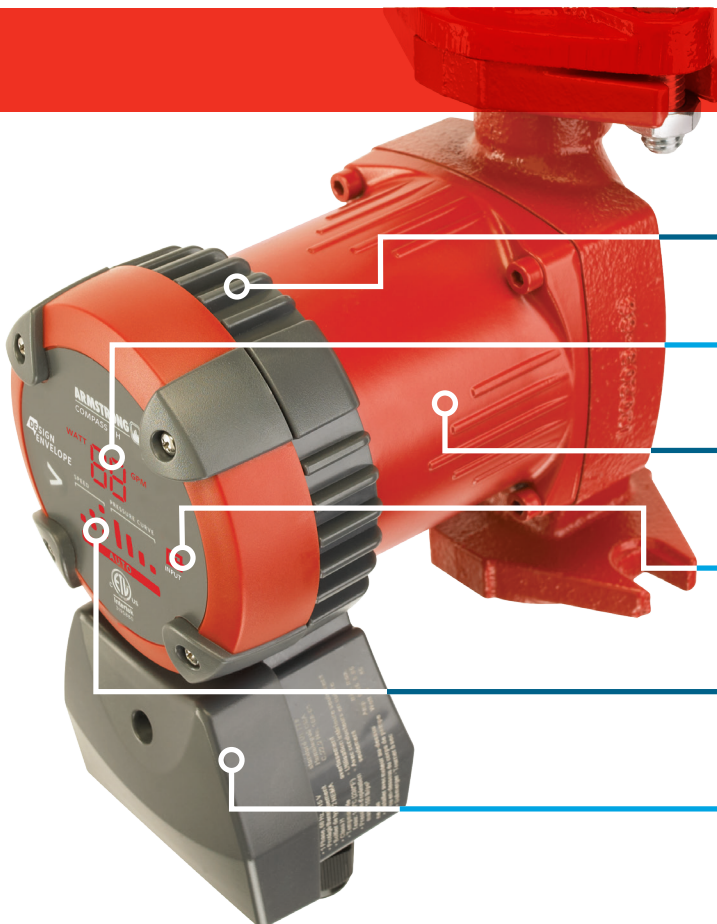
Design Envelope technology with Sensorless demand-based control

Design Envelope efficient motor technology and intelligent variable speed operation

Accepts 0-10V DC external control for modern equipment that controls water flow

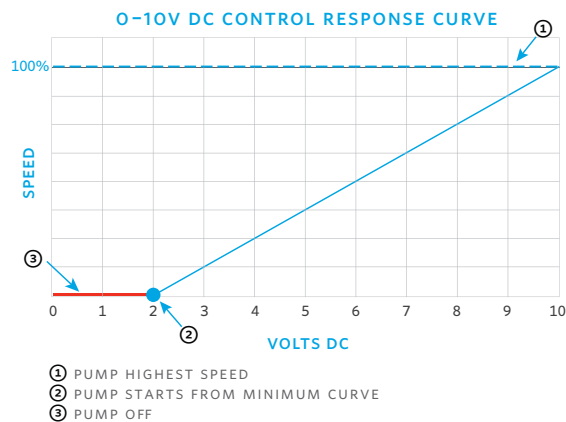
Five different modes of operation provide versatility to cover the performance of a wide range of fixed and variable speed circulators

Easy access to the terminal block for wiring

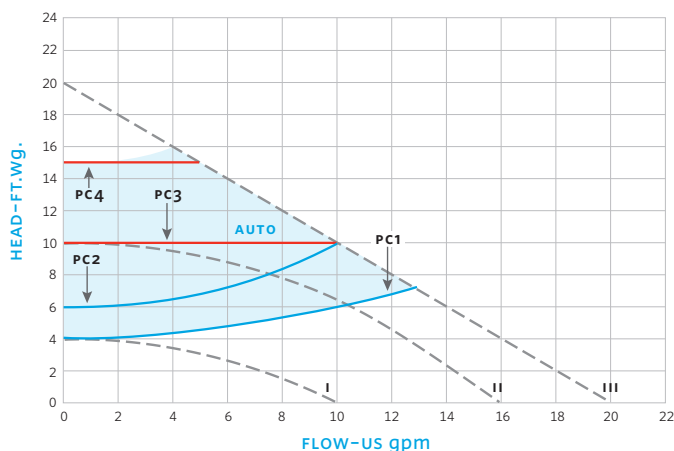


PERFORMANCE

POWER RANGE	5W-45W
MAX FLOW RATE	20 USgpm
MAX HEAD PRESSURE	20 ft
MODEL	ITEM NO.
COMPASS H 20-20CI	180203-686 (flange)
COMPASS H 20-20SS	180203-687 (flange)
COMPASS H 20-20SSU	180203-684 (union)



COMPASS H PERFORMANCE CURVES



NINE SETTING OPTIONS

AUTO Circulator adapts to system demand over time.

PC1 Lowest proportional-pressure curve

PC2 Highest proportional-pressure curve

PC3 Lowest constant-pressure curve

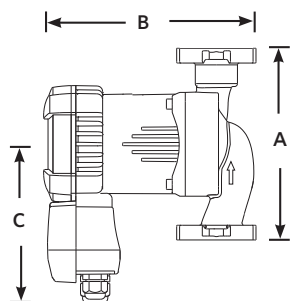
PC4 Highest constant pressure curve

III Highest constant speed

II Medium constant speed

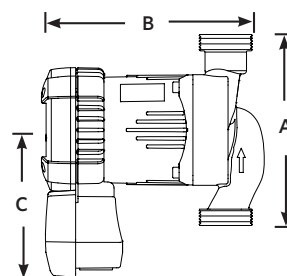
I Lowest constant speed

0-10VDC Input



CI & SS models

A = 6.375"
B = 7.08"
C = 4.61"



SSU model

A = 6"
B = 7.08"
C = 4.61"

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ENERGY
MAKE
SENSE™