

COMPASS R DESIGN ENVELOPE DRY ROTOR CIRCULATORS | SUBMITTAL

File No: 10.651
 Date: FEBRUARY 15, 2024
 Supersedes: 10.651
 Date: JUNE 29, 2022

Job: _____ Representative: _____
 _____ Ordered by: _____ Date: _____
 Engineer: _____ Submitted by: _____ Date: _____
 Contractor: _____ Approved by: _____ Date: _____

PUMP DESIGN DATA

Pump model: _____ Flange size: _____
 No. of pumps: _____ Note: _____
 Capacity: _____ USgpm (L/s) Head: _____ ft (m)
 Temperature: _____ °F (°C) Liquid: _____

TECHNICAL DATA

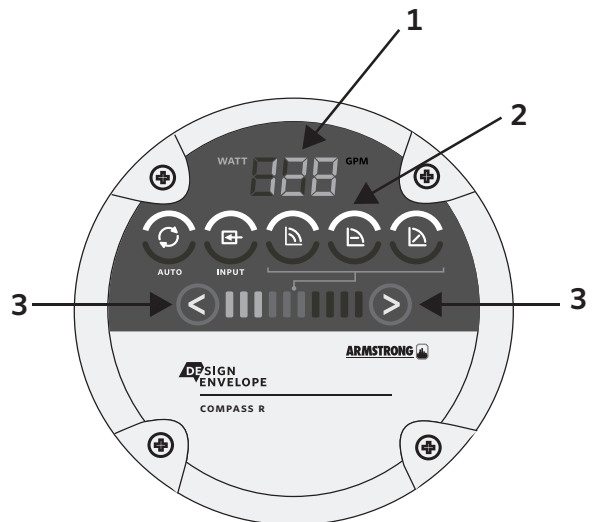
- Motor protection:** The pump requires no external motor protection.
- Maximum working temperature:** 230°F (110°C) maximum
- Maximum working pressure:** 175 psi (12 bar).
- Maximum relative air humidity (rh):** 95%.
- Enclosure class:** IP 42
- Motor Enclosure type:** ODP (indoor application only)
- Motor type:** Permanent Magnet ECM
- Insulation class:** Class F Insulation
- Inverter motor type:** Inverter duty
- Certification:** ETL listed for US and Canada (conforms to UL78 certified to CSA STD. C22.2 NO.108)
 *NSF 372 & NSF-61 (for stainless steel models)
- Sound pressure level:** The sound pressure level of the pump is lower than 43 dB(A).
- Ambient temperature:** -4°F (-20°C) — 104°F (40°C)
- Pumped liquids:** Water or up to 50% water Ethylene/Propylene Glycol mix.
- Liquid temperature:** -4°F (-20°C) — 230°F (110°C)

MATERIALS OF CONSTRUCTION

- Pump body:** Ductile iron (closed systems)
 Stainless steel* (open systems)
- Impeller:** Polyether Imide (PEI)
- Pump Shaft:** Ceramic
- O-ring material:** EPDM
- Mechanical Seal Material:** EPDM elastomeric with Silicon carbide seat

COMPASS R CONTROL PANEL

POSITION	DESCRIPTION
1	Display showing actual power consumption and flow rate
2	Five Light fields indicating the pump setting
3	Push-button for selection of pump setting

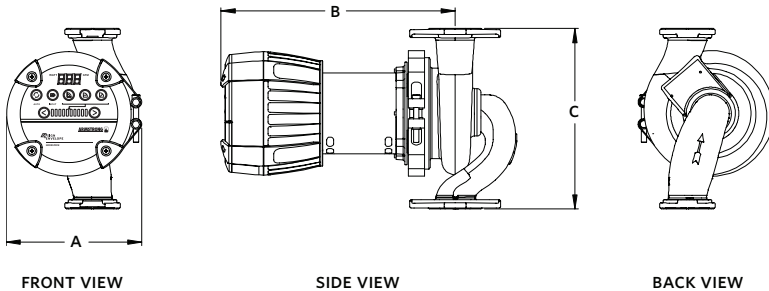


Lights on the display indicate the Control mode selected.

DIMENSIONS AND WEIGHTS

MODEL	FLANGE TO FLANGE DIMENSION inch (mm)	MOTOR		CONNECTION	FLANGE ORIENTATION	BOLT TO BOLT inch (mm)
		HP	PHASE AND VOLT			
Compass R 20-35	6.5 (165.1)	1/8	1 phase 115 v 60HZ	2 bolt flange	Y Orientation	3.16-3.44 (80.2-87.4)
Compass R 20-75	8.5 (215.9)	1/8	1 phase 115 v 60HZ or 1 phase 208-240V 50/60HZ	2 bolt flange	X Orientation	3.16-3.44 (80.2-87.4)
Compass R 40-45	6.5 (165.1)	1/8	1 phase 115 v 60HZ or 1 phase 208-240V 50/60HZ	2 bolt flange	Y Orientation	3.16-3.44 (80.2-87.4)
Compass R 25-140	10.0 (254.0)	1/2	1 phase 115 v 60HZ or 1 phase 208-240V 50/60HZ	4 bolt flange	N/A	5.06 (128.52)

MODEL	DIMENSIONS inch (mm)			WEIGHT lbs (kg)
	A	B	C	
Compass R 20-35	6.38 (162)	11.46 (291)	6.50 (165)	10 (4.5)
Compass R 20-75	6.38 (162)	11.04 (280)	8.50 (216)	18 (8.1)
Compass R 40-45	6.38 (162)	11.46 (291)	6.50 (165)	10 (4.5)
Compass R 25-140	7.92 (201)	10.75 (273)	10.00 (254)	30 (13.6)



NOTE:
All dimensions are in inches (mm) and weights in lbs (kg).
*Certified <0.25 weighted average percent lead and complies with California Health and Safety Code Section 116875 (commonly known as AB 1953).
** For open systems, it is recommended that the liquid temperature be less than 150°F (65°C) to avoid precipitation of calcium.

PART NUMBER LIST

MODEL NO.	PART #
Compass R 2075DI-8.5x2 (115V)	119181-113
Compass R 2075DI-8.5x2 (230V)	119182-113
Compass R 2075SS-8.5x2 (115V)	119181-173
Compass R 2075SS-8.5x2 (230V)	119182-173
Compass R 2035DI-6.5Y2 (115V)	119981-113
Compass R 2035SS-6.5Y2 (115V)	119981-173
Compass R 4045DI-6.5Y2 (115V)	119381-113
Compass R 4045DI-6.5Y2 (230V)	119382-113
Compass R 4045SS-6.5Y2 (115V)	119381-173
Compass R 4045SS-6.5Y2 (230V)	119382-173
Compass R 25140DI-10-4 (115V)	119281-313
Compass R 25140DI-10-4 (230V)	119282-313
Compass R 25140SS-10-4 (115V)	119281-373
Compass R 25140SS-10-4 (230V)	119282-373

COMPANION FLANGE KITS (FLANGE, GASKET AND NUTS/ BOLTS)

COMPASS MODEL	CAST IRON		STAINLESS STEEL	
	PART NUMBER	PIPE SIZE	PART NUMBER	PIPE SIZE
R20-75, R20-35	816013-212	0.75"	816013-721K	0.75"
R20-75, R20-35 & R40-45	816012-212	1.00"	816012-721K	1.00"
R20-75, R20-35 & R40-45	816011-212	1.25"	816011-721K	1.25"
R20-75, R20-35 & R40-45	816009-212	1.50"	816009-721K	1.50"

A spool piece is included with the following Compass R models:

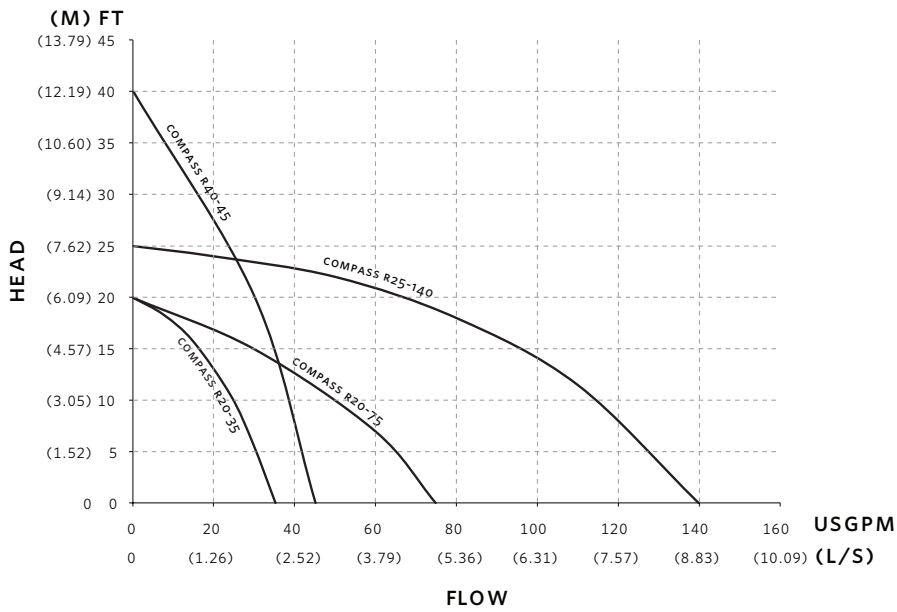
- Compass R 25-140
- Compass R 40-45

For installations in which the flange-to-flange length of a Compass R casing is less than the flange-to flange length of the circulator being replaced, the spool piece can be used to make up the difference. Adding the spool piece may eliminate the need for changes to piping.

COMPASS R 25-140

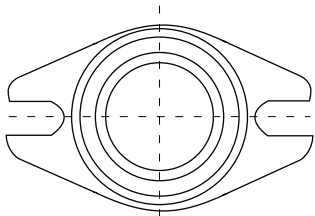
MATERIAL	FLANGE KIT	
	2.5"	3"
Iron	805189-111K	805188-111K
Stainless Steel	805188-621K	805189-621K

COMPASS R CIRCULATOR PREFERRED SELECTION AREA

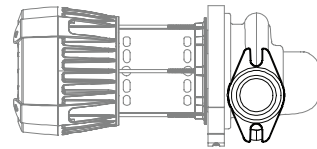
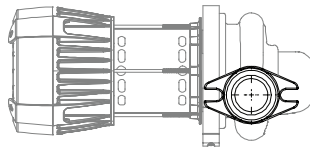


COMPASS R FLANGE AND ORIENTATION

2-BOLT FLANGE



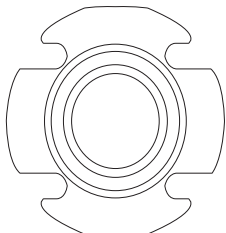
2-BOLT FLANGE ORIENTATION



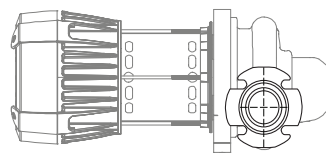
FLANGE ORIENTATION X

FLANGE ORIENTATION Y

4-BOLT FLANGE



4-BOLT FLANGE



4

COMPASS R NAMING CONVENTION EXAMPLE.

COMPASS R 2075 DI 8.5x2-115/1

COMPASS R MODEL 20-75

- Represents a maximum head pressure of 20ft and a maximum flow rate at 75USgpm

COLOUR OF CASING

- DI represents a red Ductile Iron casing
- SS represents a Stainless Steel casing

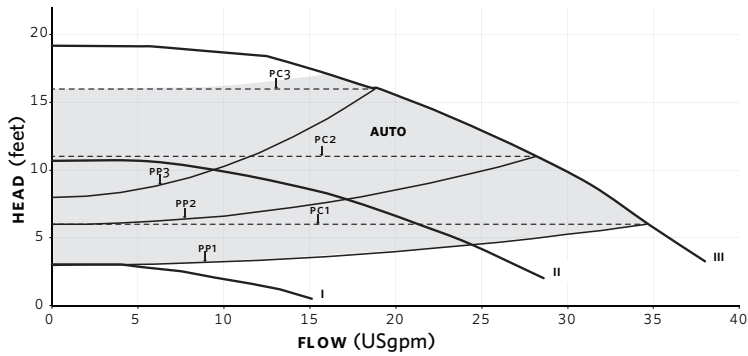
115/1 REPRESENTS

115v/1ph/60Hz (115/1/60, 208-240/1/60 is available)

8.5 REPRESENTS THE FLANGE TO FLANGE DIMENSION

- X represents the X orientation of the pump (X or Y will be available)
- 2 represents the 2-bolt flange

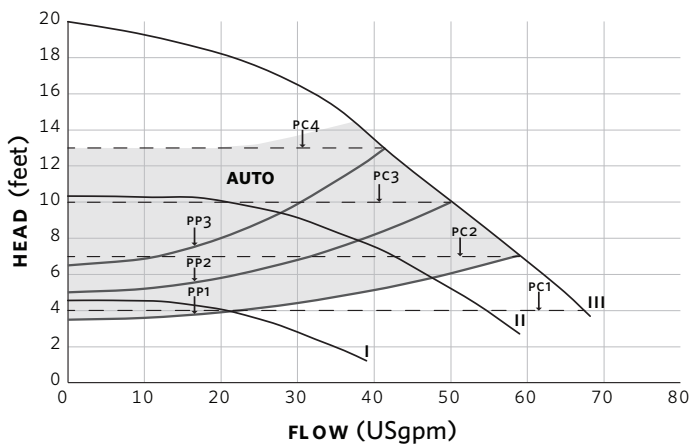
COMPASS R20-35 CURVES



MANUAL CONTROL OPTIONS

Fixed Speed Curve	I, II, III
Fixed Head Curve	PC1, PC2, PC3
Proportional Pressure Curve	PP1, PP2, PP3

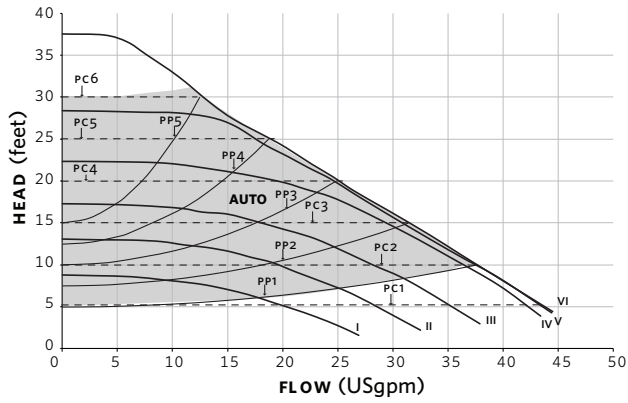
COMPASS R20-75 CURVES



MANUAL CONTROL OPTIONS

Fixed Speed Curve	I, II, III
Fixed Head Curve	PC1, PC2, PC3, PC4
Proportional Pressure Curve	PP1, PP2, PP3

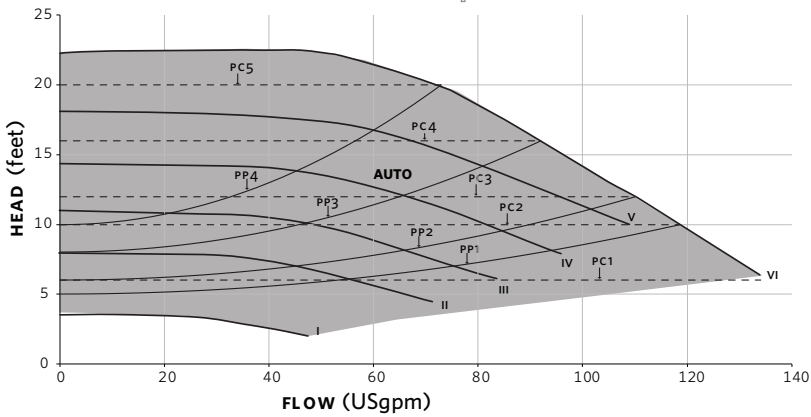
COMPASS R40-45 CURVES



MANUAL CONTROL OPTIONS

Fixed Speed Curve	I, II, III, IV, V, VI
Fixed Head Curve	PC1, PC2, PC3, PC4, PC5, PC6
Proportional Pressure Curve	PP1, PP2, PP3, PP4, PP5

COMPASS R25-140 CURVES



MANUAL CONTROL OPTIONS

Fixed Speed Curve	I, II, III, IV, V, VI
Fixed Head Curve	PC1, PC2, PC3, PC4, PC5
Proportional Pressure Curve	PP1, PP2, PP3, PP4

TORONTO

23 BERTRAND AVENUE,
TORONTO, ONTARIO,
CANADA, M1L 2P3
+1 416 755 2291

BUFFALO

93 EAST AVENUE, NORTH
TONAWANDA, NEW YORK,
USA, 14120-6594
+1 716 693 8813

DROITWICH SPA

POINTON WAY, STONEBRIDGE CROSS
BUSINESS PARK, DROITWICH SPA,
WORCESTERSHIRE,
UNITED KINGDOM, WR9 0LW
+44 121 550 5333

MANCHESTER

WOLVERTON STREET, MANCHESTER
UNITED KINGDOM, M11 2ET
+44 161 223 2223

BANGALORE

#18, LEWIS WORKSPACE, 3RD FLOOR,
OFF MILLERS - NANDIDURGA ROAD,
JAYAMAHAL CBD, BENSON TOWN,
BANGALORE, INDIA 560 046
+91 80 4906 3555

SHANGHAI

UNIT 903, 888 NORTH SICHUAN RD.
HONGKOU DISTRICT, SHANGHAI
CHINA, 200085
+86 21 5237 0909

BEIJING

ROOM 1612, NANYIN BUILDING NO.2
NORTH EAST THRID RING ROAD
CHAOYANG DISTRICT, BEIJING,
CHINA 100027
+86 21 5237 0909

SÃO PAULO

RUA JOSÉ SEMIÃO RODRIGUES
AGOSTINHO, 1370 GALPÃO 6 EMBU
DAS ARTES, SAO PAULO, BRAZIL
+55 11 4785 1330

LYON

93 RUE DE LA VILLETTE
LYON, 69003 FRANCE
+33 4 20 10 26 21

DUBAI

JAFZA VIEW 19, OFFICE 402
P.O. BOX 18226 JAFZA,
DUBAI - UNITED ARAB EMIRATES
+971 4 887 6775

JIMBOLIA

STR CALEA MOTILOR NR. 2C
JIMBOLIA 305400, JUD.TIMIS
ROMANIA
+40 256 360 030

FRANKFURT

WESTERBACHSTRASSE 32,
D-61476 KRONBERG IM TAUNUS
GERMANY
+49 6173 999 77 55

ARMSTRONG FLUID TECHNOLOGY®
ESTABLISHED 1934

ARMSTRONGFLUIDTECHNOLOGY.COM