ELECTRONIC CIRCULATORS FOR HEATING SYSTEMS

CE

GENERAL DATA

Applications

The VEA circulator features a built-in electronic control device that detects variations in the rate of flow required by the central heating system and automatically adapts its performance accordingly. It also ensures maximum efficiency and noiseless running with minimum power consumption in modern thermostat-controlled heating systems. When the system requires the maximum rate of flow, the circulator automatically moves to maximum speed and develops maximum power. When the system is choked, either manually by the user or automatically by the thermostats, the electronic control unit detects the decrease in required flow and reduces the speed of rotation of the circulator (rate of flow), but keeps the head, which would tend to increase with a traditional circulator, more or less constant.

Advantages

Noiseless running:no noise in the system piping near the thermostats caused by pressure build ups when these restrict the path of the water in order to reduce the rate of flow.

Cost effectiveness: noticeable reduction in electric power input compared with a circulator featuring a manual speed variator. Simplified system thanks to the elimination of by-pass valves or similar devices.

Complies with standards: this circulator has been designed in compliance with energy-saving regulations due to come into force or already in force in EEC countries, as well as EEC Directive 89/336 concerning electromagnetic compatibility.

Reliability:increased average lifetime of the circulator and reduced wear of touching rotating parts (driving shaft and brass bushes). Operation guaranteed even if the electronic control unit breaks down, by manually setting rotation to maximum speed, thereby overriding the control unit.

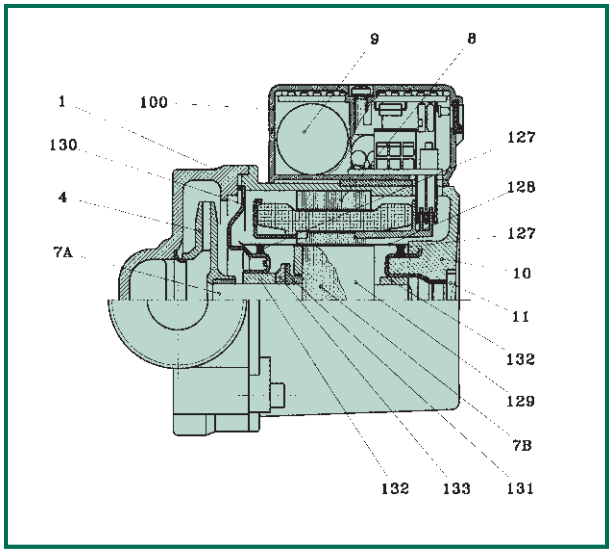
Construction characteristics

Pump body in cast iron and motor casing in aluminium.
Technopolymer impeller.
Stainless steel driving shaft, protective rotor sleeve, separator tube section and closing flange.
Ceramic thrust bearing and E.P.D.M. O-rings
Two-pole, asynchronous motor with wet rotor, mechanical seal not present.
Rotor mounted on graphite brushings.
Motor self-protected against resistance
No overload protection required.
Operating mode selection: "AUTOMATIC" or "MAXIMUM SPEED" in case the electronic unit is faulty.
Permanent display of operating mode provided by two led's.

ELECTRONIC CIRCULATORS FOR HEATING SYSTEMS

TECHNICAL DATA

N.	PARTS	MATERIALS
1	PUMP BODY	CAST IRON
4	IMPELLER	TECHNOPOLYMER
7A	DRIVE SHAFT	STAINLESS STEEL
7B	ROTOR	–
8	STATOR	–
9	CAPACITOR	–
10	MOTOR CASING	DIE CAST ALUMINIUM
11	AIR OUTLET CAP	BRASS
100	TERMINAL BOARD BOX	–
127	O-RING	E.P.D.M
128	STATOR SLEEVE	STAINLESS STEEL
129	ROTOR SLEEVE	STAINLESS STEEL
130	CLOSING FLANGE	STAINLESS STEEL
131	THRUST BOX SUPPORT	E.P.D.M
132	BRUSHINGS	GRAPHITE
133	THRUST BOX	CERAMICS



– Indice di denominazione:
(esempio)

VEA 35 / 180 X

VEA = circulator with threaded mouths
VEB = circulator with DN 25 oval flanges

maximum head (dm)

centre-to-centre distance (mm)

Standard (no ref.) = 1" 1/2 threaded mouths
X = 2" threaded mouths
1/2" = 1" threaded mouths

Operating range:	from 0,5 to 3,5 m^3/h with head up to 5 metres.
Performance:	according to corresponding curve characteristics.
Liquid temperature range:	from +2°C to +95°C. To prevent condensation from forming inside the motor, the pumped liquid must always be above room temperature.
Characteristics of pumped liquid:	clean, free from solids and mineral oils, non viscous, chemically neutral, close to the characteristics of water (max. glycol 30%).
Maximum working pressure:	10 bar (1000 kPa).
Minimum head pressure:	values referring to maximum flow and fluid at +90°C: 1,5 metres.
Installation:	with MOTOR AXIS HORIZONTAL on the delivery or return piping and intake mouth as near as possible to the expansion tank, higher than the maximum level of the boiler and as far away as possible from bends, elbows and unions, in order to prevent water turbulence and consequent noisiness.
Protection level:	IP42
Insulation class:	F
Cable grommet:	PG 11

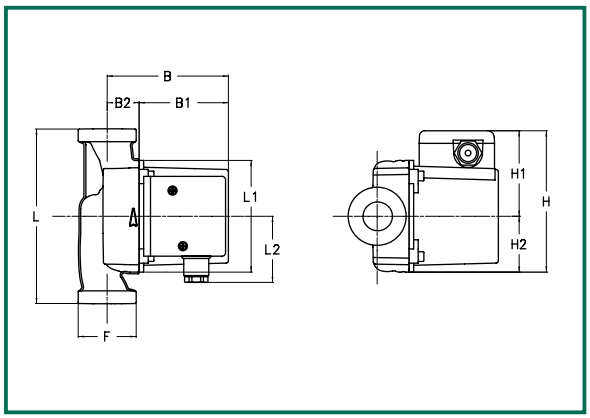
Performance curves based on kinematic viscosity values equal to 1 mm²/s at a density equal to 1000 kg/m³. Curve tolerance in accordance with ISO9906.

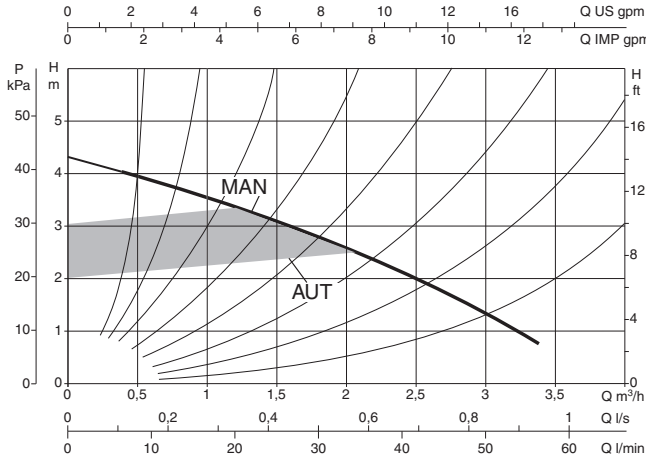
ELECTRONIC CIRCULATORS FOR HEATING SYSTEMS

Liquid temperature range: from +2°C to +95°C
Maximum operating pressure: 10 bar (1000 kPa)

VEA 35/130

SINGLE WITH UNIONS



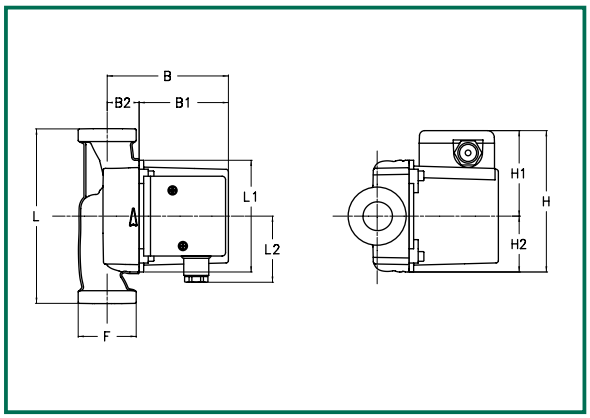


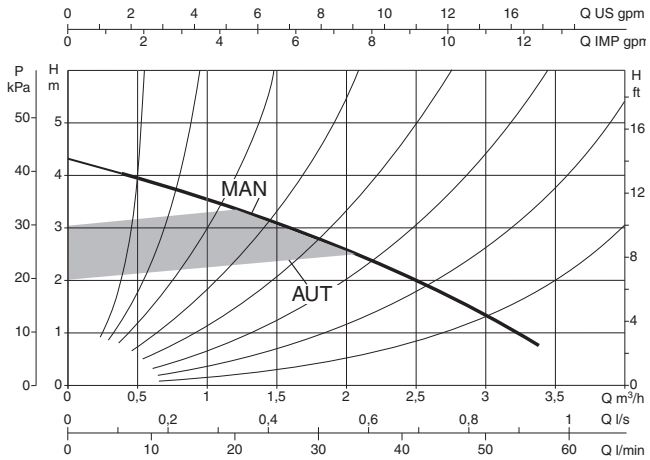
L	L1	L2	B	B1	B2	H	H1	H2	F	PACKING DIMENSIONS L	PACKING DIMENSIONS B	PACKING DIMENSIONS H	VOLUME m³	WEIGHT Kg
130	98	65	104	78	26	130	61	49	1 ½"	138	140	135	0,0026	2,65

MODEL	VOLTAGE 50 Hz	CENTRE DISTANCE mm	UNIONS ON REQUEST		ELECTRICAL DATA					MINIMUM HEAD PRESSURE
			STANDARD	SPECIAL	SPEED	P1 MAX W	In A	CAPACITOR µF	CAPACITOR Vc	
VEA 35/130	1x230 V ~	130	1" F	¾" F - 1 ¼" M	MIN MAX	36 71	0,17 0,31	2	400	t° +90°C mt. 1,5

VEA 35/180

SINGLE WITH UNIONS





L	L1	L2	B	B1	B2	H	H1	H2	F	PACKING DIMENSIONS L	PACKING DIMENSIONS B	PACKING DIMENSIONS H	VOLUME m³	WEIGHT Kg
180	98	65	104	78	26	130	61	49	1 ½"	138	190	140	0,0036	2,8

MODEL	VOLTAGE 50 Hz	CENTRE DISTANCE mm	UNIONS ON REQUEST		ELECTRICAL DATA					MINIMUM HEAD PRESSURE
			STANDARD	SPECIAL	SPEED	P1 MAX W	In A	CAPACITOR µF	CAPACITOR Vc	
VEA 35/180	1x230 V ~	180	1" F	¾" F - 1 ¼" M	MIN MAX	36 71	0,17 0,31	2	400	t° +90°C mt. 1,5

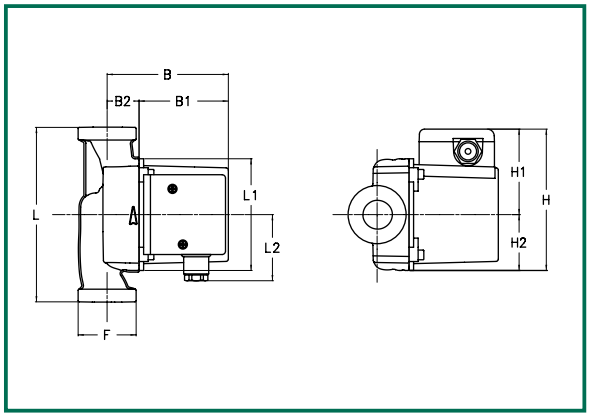
Performance curves based on kinematic viscosity values equal to 1 mm²/s at a density equal to 1000 kg/m³. Curve tolerance in accordance with ISO9906.

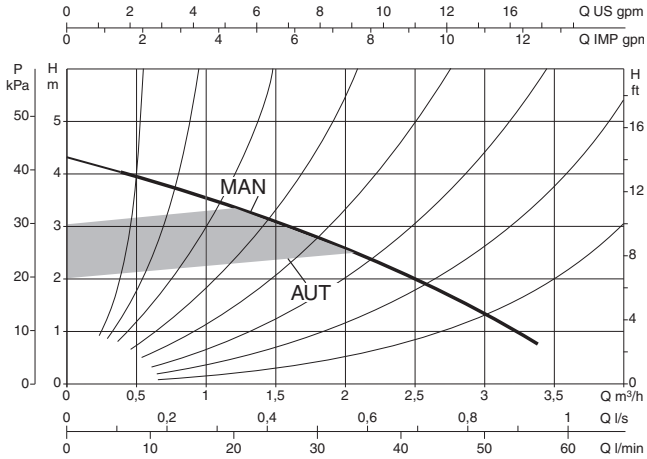
ELECTRONIC CIRCULATORS FOR HEATING SYSTEMS

Liquid temperature range: from +2°C to +95°C
Maximum operating pressure: 10 bar (1000 kPa)

VEA 35/180 X

SINGLE WITH UNIONS



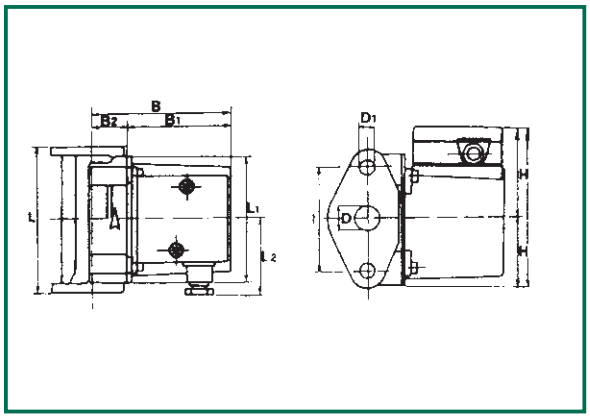


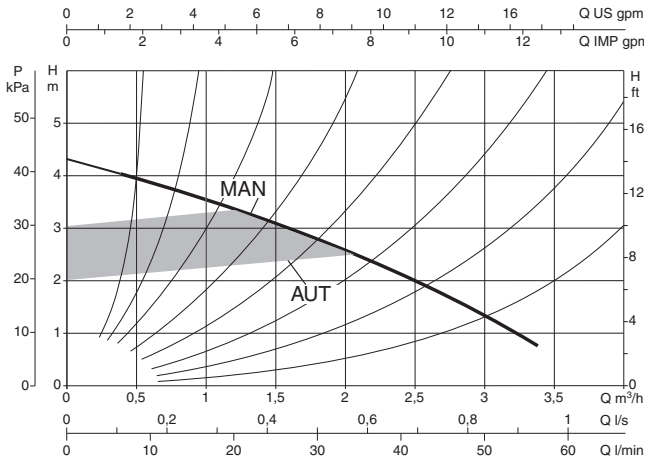
L	L1	L2	B	B1	B2	H	H1	H2	F	PACKING DIMENSIONS L	PACKING DIMENSIONS B	PACKING DIMENSIONS H	VOLUME m³	WEIGHT Kg
180	98	65	104	78	26	130	61	49	2"	138	190	140	0,0036	2,9

MODEL	VOLTAGE 50 Hz	CENTRE DISTANCE mm	UNIONS ON REQUEST		ELECTRICAL DATA					MINIMUM HEAD PRESSURE
			STANDARD	SPECIAL	SPEED	P1 MAX W	In A	CAPACITOR µF	CAPACITOR Vc	
VEA 35/180 X	1x230 V ~	180	1 1/4" F	-	MIN MAX	36 71	0,17 0,31	2	400	t° +90°C mt. 1,5

VEB 35/120

SINGLE WITH OVAL FLANGES





L	L1	L2	B	B1	B2	H	H1	H2	D	D1	I	PACKING DIMENSIONS L	PACKING DIMENSIONS B	PACKING DIMENSIONS H	VOLUME m³	WEIGHT Kg
120	98	65	104	78	26	130	61	49	26	10	80	138	130	145	0,0026	3,15

MODEL	VOLTAGE 50 Hz	CENTRE DISTANCE mm	OVAL FLANGES ON REQUEST		ELECTRICAL DATA					MINIMUM HEAD PRESSURE
			STANDARD	SPECIAL	SPEED	P1 MAX W	In A	CAPACITOR µF	CAPACITOR Vc	
VEB 35/120	1x230 V ~	120	DN25	DN20-DN32	MIN MAX	36 71	0,17 0,31	2	400	t° +90°C mt. 1,5

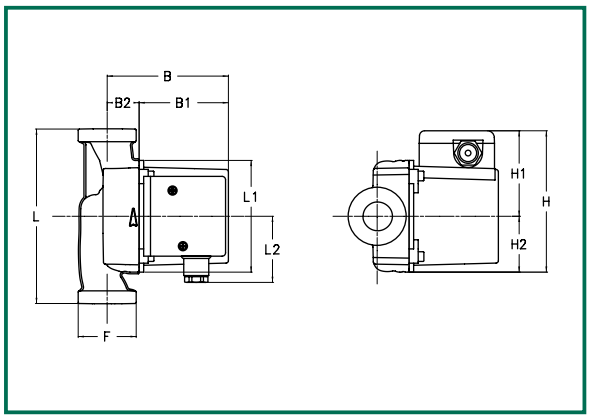
Performance curves based on kinematic viscosity values equal to 1 mm²/s at a density equal to 1000 kg/m³. Curve tolerance in accordance with ISO9906.

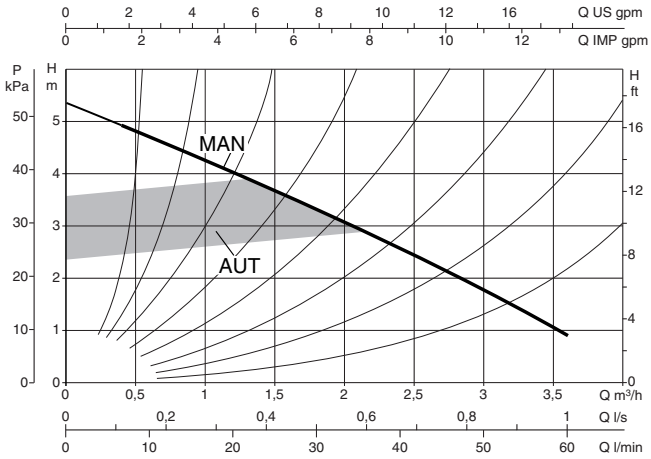
ELECTRONIC CIRCULATORS FOR HEATING SYSTEMS

Liquid temperature range: from +2°C to +95°C
Maximum operating pressure: 10 bar (1000 kPa)

VEA 55/130

SINGLE WITH UNIONS



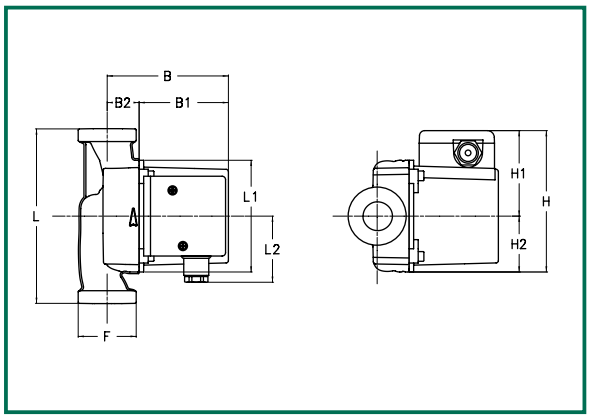


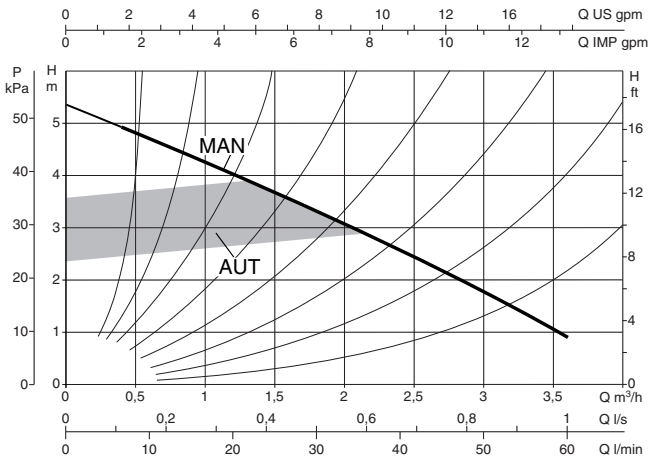
L	L1	L2	B	B1	B2	H	H1	H2	F	PACKING DIMENSIONS L	B	H	VOLUME m³	WEIGHT Kg
130	98	65	104	78	26	130	61	49	1 ½"	138	140	135	0,0026	2,65

MODEL	VOLTAGE 50 Hz	CENTRE DISTANCE mm	UNIONS ON REQUEST		ELECTRICAL DATA					MINIMUM HEAD PRESSURE
			STANDARD	SPECIAL	SPEED	P1 MAX W	In A	CAPACITOR µF	Vc	
VEA 55/130	1x230 V ~	130	1" F	¾" F - 1 ¼" M	MIN MAX	68 84	0,30 0,36	2,5	400	t° +90°C mt. 1,5

VEA 55/180

SINGLE WITH UNIONS





L	L1	L2	B	B1	B2	H	H1	H2	F	PACKING DIMENSIONS L	B	H	VOLUME m³	WEIGHT Kg
180	98	65	104	78	26	130	61	49	1 ½"	138	140	135	0,0036	2,8

MODEL	VOLTAGE 50 Hz	CENTRE DISTANCE mm	UNIONS ON REQUEST		ELECTRICAL DATA					MINIMUM HEAD PRESSURE
			STANDARD	SPECIAL	SPEED	P1 MAX W	In A	CAPACITOR µF	Vc	
VEA 55/180	1x230 V ~	180	1" F	¾" F - 1 ¼" M	MIN MAX	68 84	0,30 0,36	2,5	400	t° +90°C mt. 1,5

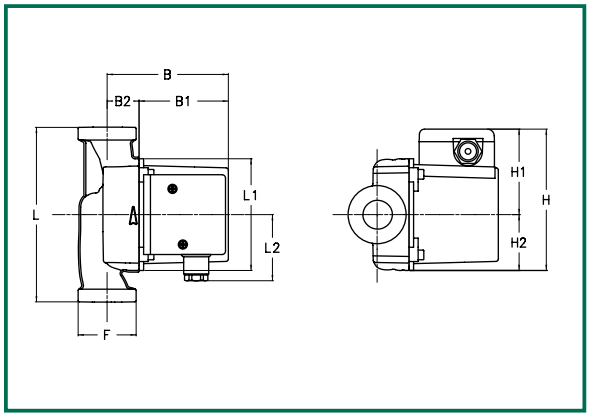
Performance curves based on kinematic viscosity values equal to 1 mm²/s at a density equal to 1000 kg/m³. Curve tolerance in accordance with ISO9906.

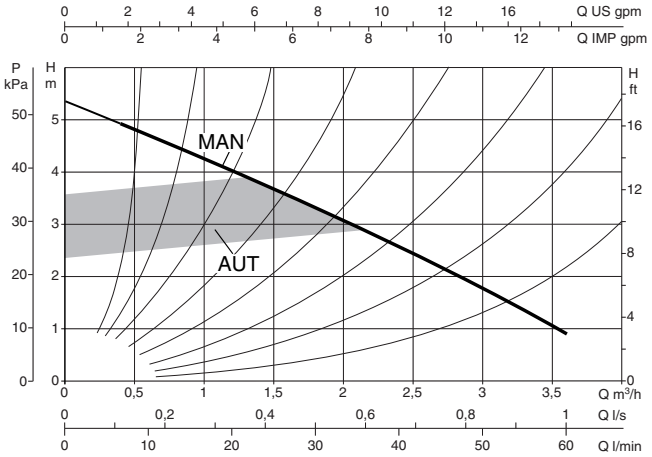
ELECTRONIC CIRCULATORS FOR HEATING SYSTEMS

Liquid temperature range: from +2°C to +95°C
Maximum operating pressure: 10 bar (1000 kPa)

VEA 55/180 X

SINGLE WITH UNIONS



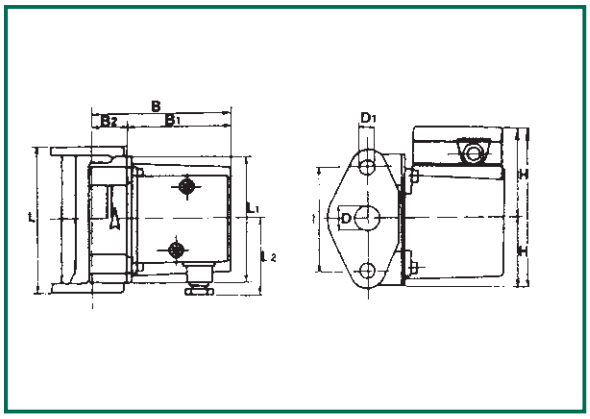


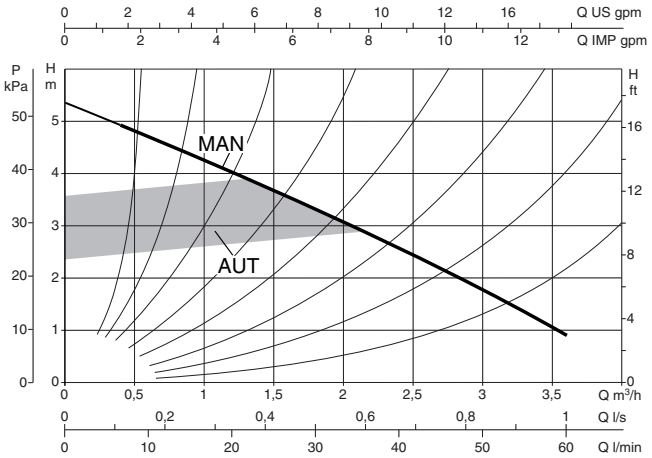
L	L1	L2	B	B1	B2	H	H1	H2	F	PACKING DIMENSIONS L	B	H	VOLUME m³	WEIGHT Kg
180	98	65	104	78	26	130	61	49	2"	138	190	140	0,0036	2,9

MODEL	VOLTAGE 50 Hz	CENTRE DISTANCE mm	UNIONS ON REQUEST		ELECTRICAL DATA					MINIMUM HEAD PRESSURE
			STANDARD	SPECIAL	SPEED	P1 MAX W	In A	CAPACITOR µF	Vc	
VEA 55/180 X	1x230 V ~	180	1 1/4" F	-	MIN MAX	68 84	0,30 0,36	2,5	400	t° +90°C mt. 1,5

VEB 55/120

SINGLE WITH OVAL FLANGES





L	L1	L2	B	B1	B2	H	H1	H2	D	D1	I	PACKING DIMENSIONS L	B	H	VOLUME m³	WEIGHT Kg
120	98	65	104	78	26	130	61	49	26	10	80	138	130	145	0,0026	3,15

MODEL	VOLTAGE 50 Hz	CENTRE DISTANCE mm	OVAL FLANGES ON REQUEST		ELECTRICAL DATA					MINIMUM HEAD PRESSURE
			STANDARD	SPECIAL	SPEED	P1 MAX W	In A	CAPACITOR µF	Vc	
VEB 55/120	1x230 V ~	120	DN25	DN20-DN32	MIN MAX	68 84	0,30 0,36	2,5	400	t° +90°C mt. 1,5

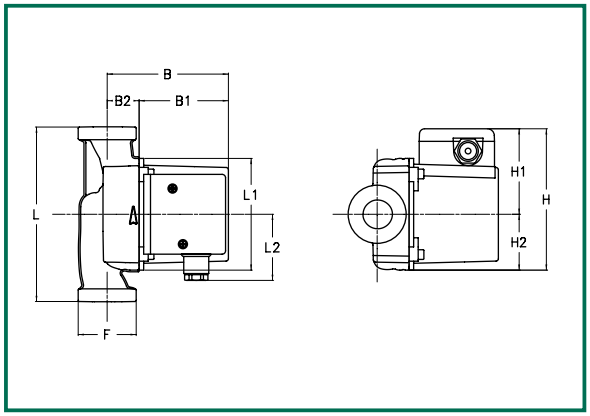
Performance curves based on kinematic viscosity values equal to 1 mm^2/s at a density equal to 1000 kg/m^3. Curve tolerance in accordance with ISO9906.

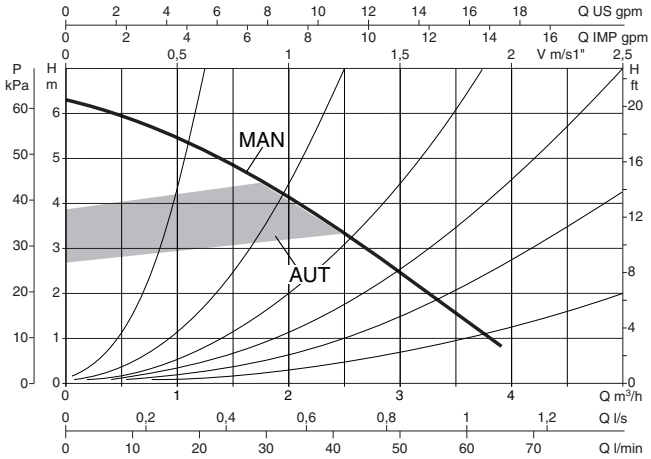
ELECTRONIC CIRCULATORS FOR HEATING SYSTEMS

Liquid temperature range: from +2°C to +95°C
Maximum operating pressure: 10 bar (1000 kPa)

VEA 65/130

SINGLE WITH UNIONS



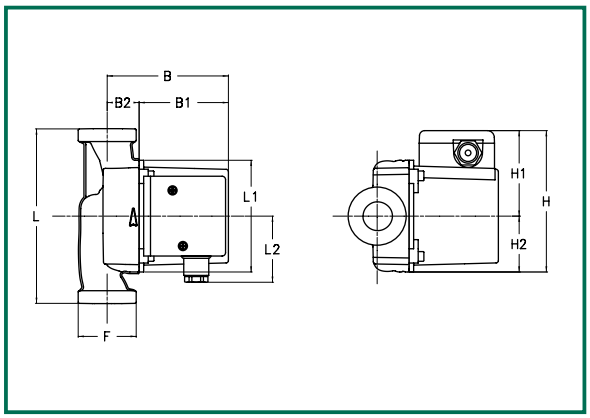


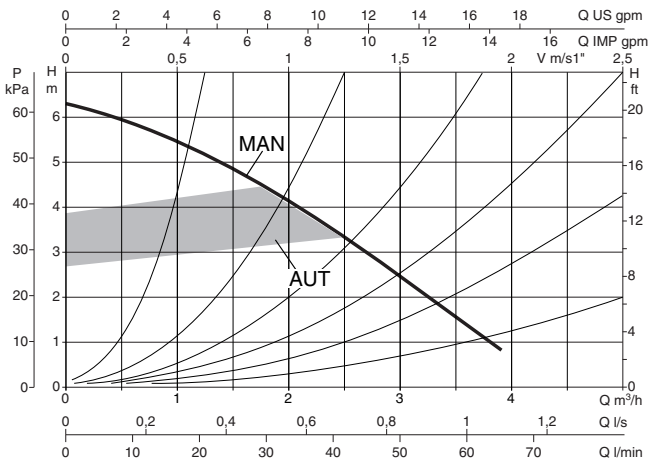
L	L1	L2	B	B1	B2	H	H1	H2	F	PACKING DIMENSIONS L	PACKING DIMENSIONS B	PACKING DIMENSIONS H	VOLUME m^3	WEIGHT Kg
130	98	65	104	78	26	130	61	49	1 1/2"	138	140	135	0,0026	2,65

MODEL	VOLTAGE 50 Hz	CENTRE DISTANCE mm	UNIONS ON REQUEST		ELECTRICAL DATA					MINIMUM HEAD PRESSURE
			STANDARD	SPECIAL	SPEED	P1 MAX W	In A	CAPACITOR µF	CAPACITOR Vc	
VEA 65/130	1x230 V ~	130	1" F	3/4" F - 1 1/4" M	MIN MAX	46 102	0,20 0,45	2,5	400	t° +90°C mt. 1,5

VEA 65/180

SINGLE WITH UNIONS





L	L1	L2	B	B1	B2	H	H1	H2	F	PACKING DIMENSIONS L	PACKING DIMENSIONS B	PACKING DIMENSIONS H	VOLUME m^3	WEIGHT Kg
180	98	65	104	78	26	130	61	49	1 1/2"	138	140	135	0,0036	2,8

MODEL	VOLTAGE 50 Hz	CENTRE DISTANCE mm	UNIONS ON REQUEST		ELECTRICAL DATA					MINIMUM HEAD PRESSURE
			STANDARD	SPECIAL	SPEED	P1 MAX W	In A	CAPACITOR µF	CAPACITOR Vc	
VEA 65/180	1x230 V ~	180	1" F	3/4" F - 1 1/4" M	MIN MAX	46 102	0,20 0,45	2,5	400	t° +90°C mt. 1,5

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ELECTRONIC CIRCULATORS FOR HEATING SYSTEMS

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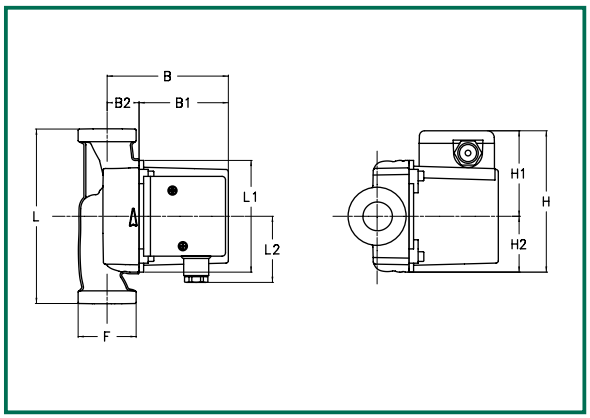
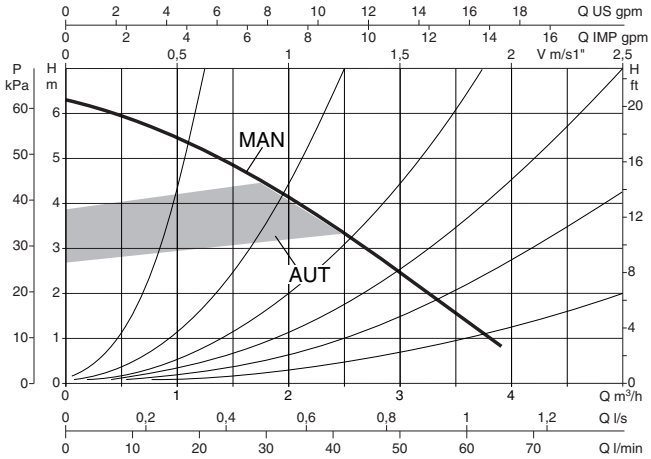
Maximum operating pressure: 10 bar (1000 kPa)

VEA 65/180 X

SINGLE WITH UNIONS



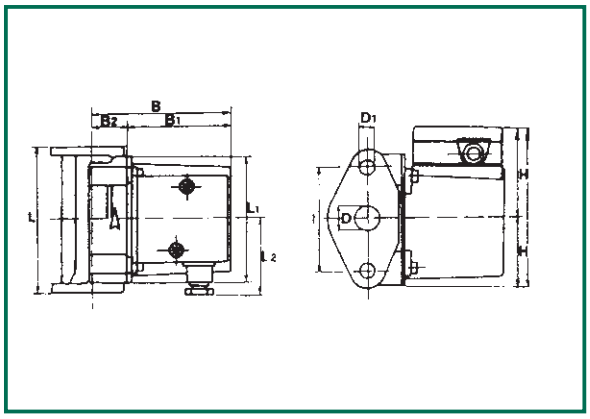


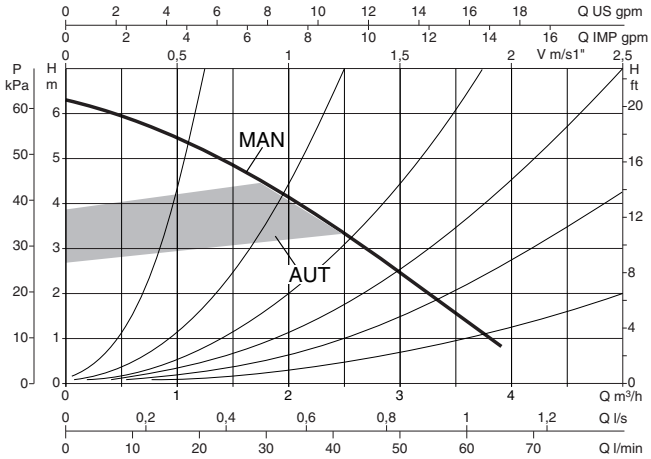
L	L1	L2	B	B1	B2	H	H1	H2	F	PACKING DIMENSIONS L	B	H	VOLUME m³	WEIGHT Kg
180	98	65	104	78	26	130	61	49	2"	138	190	140	0,0036	2,9

MODEL	VOLTAGE 50 Hz	CENTRE DISTANCE mm	UNIONS ON REQUEST		ELECTRICAL DATA					MINIMUM HEAD PRESSURE
			STANDARD	SPECIAL	SPEED	P1 MAX W	In A	CAPACITOR µF	Vc	
VEA 65/180 X	1x230 V ~	180	1 1/4" F	–	MIN MAX	76 100	0,33 0,43	2,5	400	t° +90°C mt. 1,5

VEB 65/120

SINGLE WITH OVAL FLANGES





L	L1	L2	B	B1	B2	H	H1	H2	D	D1	I	PACKING DIMENSIONS L	B	H	VOLUME m³	WEIGHT Kg
120	98	65	104	78	26	130	61	49	26	10	80	138	130	145	0,0026	3,15

MODEL	VOLTAGE 50 Hz	CENTRE DISTANCE mm	UNIONS ON REQUEST		ELECTRICAL DATA					MINIMUM HEAD PRESSURE
			STANDARD	SPECIAL	SPEED	P1 MAX W	In A	CAPACITOR µF	Vc	
VEB 65/120	1x230 V ~	120	DN25	DN20-DN32	MIN MAX	46 102	0,20 0,45	2,5	400	t° +90°C mt. 1,5