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Construction

Vertical close-coupled peripheral (regenerative) pumps with submerged turbine impeller, seal-less, reversible.
 Port dimension to EN 12157.
 Submerged depth 170 mm.

Applications

For clean liquids without abrasives, without suspended solids, non-explosive, non-aggressive for the pump materials. For the reduced dimensions, these pumps are very well suited for use with temperature, controllers chillers, and air-conditioning machines and systems.

Operating conditions

Liquid temperature: - with water up to 90 °C.
 - oil up to 150 °C.
 Max. kinematic viscosity: 20 mm²/s at 50 °C (2,9 °E).
 Ambient temperature: up to 40 °C.
 Max. depression 0,9 bar.
 Continuous duty.

Motor

2-pole induction motor, 50 Hz (n = 2900 1/min).
VT: three-phase 230/400 V ± 10% (220-240 / 380-415 V).
 Insulation class F.
 Protection IP 54.
 Constructed in accordance with: IEC 60034.

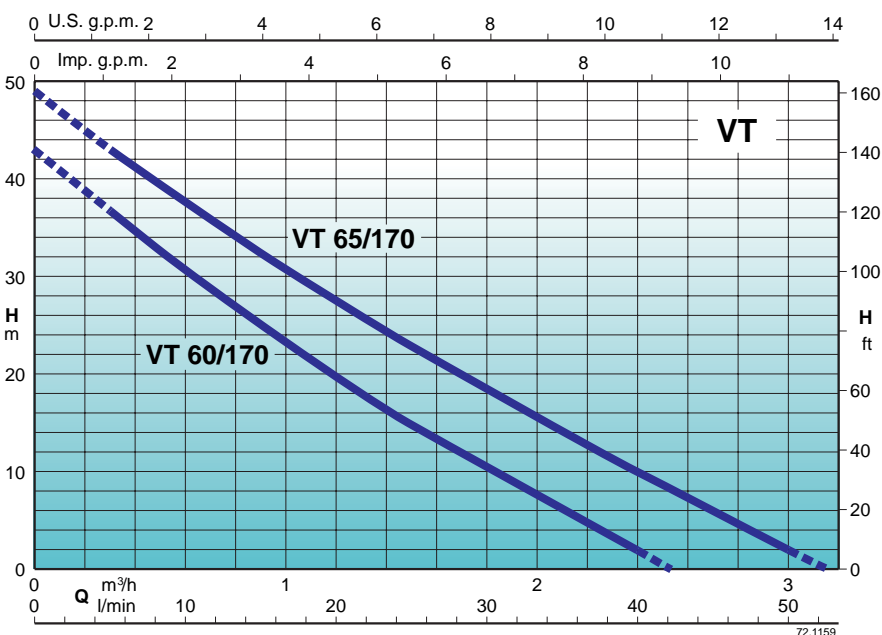
Materials

Components	Materials
Pump casing	Bronze G-Cu Sn 10 EN 1982
Casing cover	Bronze G-Cu Sn 10 EN 1982
Impeller	Brass P- Cu Zn Pb 2 UNI 5705
Shaft	Chrome steel 1.4104 EN 10088 (AISI 430)
Bearing sleeve	Corrosion-resistant Cr-Mo steel
Bearing in the casing	Polymer
Screws	Cr-Ni steel 1.4301 EN 10088 (AISI 304)

Special features on request

- Terminal box arrangement 2-3-4 in accordance with EN 12157.
- Oil temperature up to 180 °C.
- Other voltages.
- Frequency 60 Hz.
- Protection IP 55.

Characteristic Curves with water at 20 °C ($\nu = 1 \text{ mm}^2/\text{s}$) $n \approx 2900 \text{ rpm}$



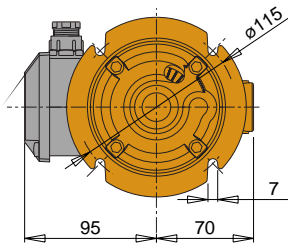
Performance $n \approx 2900$ rpm

3~	230V 400V		P ₂		Q												
	A	A	kW	HP		m ³ /h	0	0,3	0,48	0,6	0,75	0,96	1,2	1,5	1,89	2,4	3
VT 60/170	1,9	1,1	0,33	0,45	H	43	37	33	30,5	27,5	23,5	19,5	15	8,5	2		
VT 65/170	2,8	1,6	0,45	0,6	m	48,5	42,5	39	37	34,5	31	27	23	17,5	10	2	

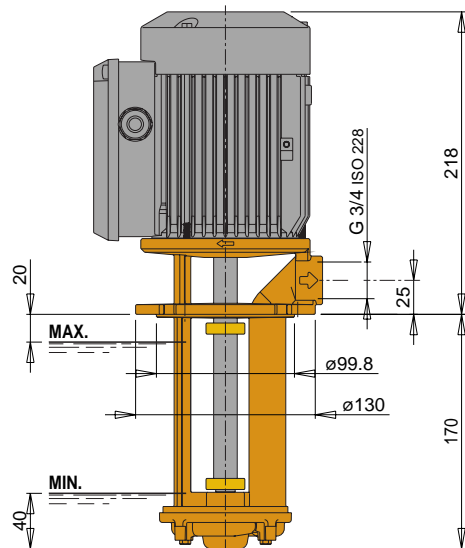
P₂ Rated motor power output.

H Pump outlet head

Dimensions and weights



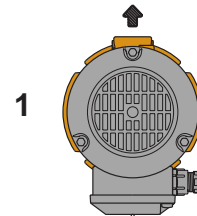
VT 60/170: kg 8,2
VT 65/170: kg 8,4



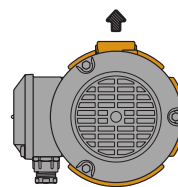
Terminal box arrangement (view from motor side)

EN 12157

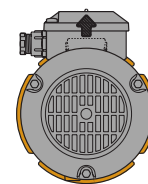
1
Standard



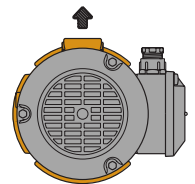
2, 3, 4
On request



2



3



4

VAL, SC

Vertical Submerged Pumps



Construction

Vertical column sump pumps, with motor in dry installation and with pump body submerged in the liquid handled (without suction line or foot valve).

Impeller - VAL: free-flow impeller (vortex or recessed impeller).
- SC: open impeller.

Connection - VAL 30, SC 30, SC 50: threaded port ISO 228 (BS 2779).
- VAL 65: flange with plain face oval threaded counter-flange UNI 2245, PN 2,5.

Applications

- For draining a basin or a sump with domestic or industrial sewage.
- For slightly dirty waste water, for liquids which are non-aggressive for the pump materials.

Operating conditions

Liquid temperature up to 40 °C.

Ambient temperature up to 40 °C.

Continuous duty.

Maximum size of solids: VAL 30 = 25 mm; VAL 65 = 50 mm;
SC 30 = 3 mm; SC 50 = 6 mm.

Motor

2-pole induction motor, 50 Hz (n = 2900 rpm).

VAL -SC: three-phase 230/400 V ± 10%.

VALM-SCM: single-phase 230 V ± 10%, with thermal protector.

Insulation class F.

Protection IP 54.

Constructed in accordance with IEC 60034.

Special features on request

- Other voltages.
- Frequency 60 Hz (as per 60 Hz data sheet).
- Protection IP 55.
- Bronze bearing bush (for liquid up to 100 °C).
- Higher or ambient temperatures.

Materials

Components	VAL	SC
Pump casing Lower bearing housing*	Cast iron GJL 200 EN 1561	Cast iron GJL 200 EN 1561
Impeller	Brass P-Cu Zn 40 Pb 2 UNI 5705 for VAL 30	Brass P-Cu Zn 40 Pb 2 UNI 5705
	Cast iron GJL 200 EN 1561 for VAL 65	
Shaft	Steel C 40 UNI 7231	
Bearing bush	Tecno polymer	
Shaft sleeve	Chromate bronze for VAL 65	-

* Not existing for VAL 30.

Characteristic Curves $n \approx 2900 \text{ rpm}$

