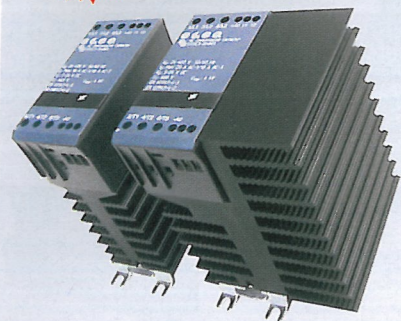


SOLID STATE CONTACTORS

NEW



Features

- LED status indication
- **IP20** protection
- Built-in varistor protection
- Zero crossing commutation
- Integrated heatsink
- Bounce free & Arcless switching
- For motor, lamps, heaters, etc
- High switching frequency

Code	Poles	Operational Voltage	Current Rating AC1	Current Rating AC3	Control Voltage	Ultra Fuse
SSRSC1-15	1	24-240VAC	15A	3A	24-230VAC/DC	15A
SSRSC1-30	1	24-240VAC	30A	7A	24-230VAC/DC	30A
SSRSC1-50	1	24-240VAC	50A	12A	24-230VAC/DC	50A
SSRSC2-30	2	48-600VAC	30A	7A	24-230VAC/DC	30A
SSRSC2-50	2	48-600VAC	50A	12A	24-230VAC/DC	50A
SSRSC3-10	3	48-600VAC	10A	2A	24-230VAC/DC	10A
SSRSC3-20	3	48-600VAC	20A	4.5A	24-230VAC/DC	20A

SINGLE PHASE INDUSTRIAL SSR

NEW



Single Phase



Three Phase

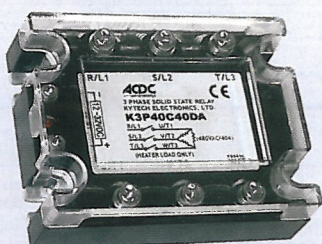
Single Phase Code	Line Voltage AC	Di-Electric Strength	Control Voltage	Max. Current	Three Phase Code
HHG1C-1/32F-1210	60-1200VAC	2500VAC	3-32VDC	100A	HHG1-3/32F-1210
HHG1C-1/32F-1215	60-1200VAC	2500VAC	3-32VDC	150A	HHG1-3/32F-1215
HHG1C-1/32F-1220	60-1200VAC	2500VAC	3-32VDC	200A	HHG1-3/32F-1220
HHG1C-1/32F-1225	60-1200VAC	2500VAC	3-32VDC	250A	HHG1-3/32F-1225

Specification

Insulation Resistance: 500 m ohms 500 VDC
Ambient Temperature: - 30 - 80°C
Voltage Drop: Less than 1.6 VAC
Working Indicator: LED

SOLID STATE RELAYS

NEW



3 Phase Solid State Relays

Line Voltage Ac	Line Voltage Ac	Di-electric Strength	Control Voltage	Max. Current 10A	Max. Current 20A	Max. Current 40A
400 V	2500 VAC	3 - 32VDC	HHG1-3/32F10	HHG1-3/32F20	HHG1-3/32F40	
400 V	2500 VAC	90 - 250VAC	HHG1-3/250F10	HHG1-3/250F20	HHG1-3/250F40	

Line Voltage Ac	Line Voltage Ac	Di-electric Strength	Control Voltage	Max. Current 75A	Max. Current 100A	Max. Current 120A
400 V	2500 VAC	3 - 32VDC	HHG1-3/32F80	HHG1-3/32F100	HHG1-3/32F120	
400 V	2500 VAC	90 - 250VAC	HHG1-3/250F80	HHG1-3/250F100	HHG1-3/250F120	

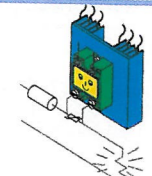
Specification

Insulation Resistance: 500 m ohms 500 VDC
Ambient Temperature: - 30 - 80°C
Voltage Drop: Less than 1.6 VAC
Working Indicator: LED

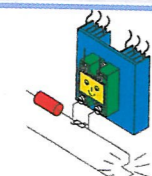
3 Phase Solid State Reversible Relays

Line Voltage Ac	Line Voltage Ac	Di-electric Strength	Control Voltage**	Max. Current 10A	Max. Current 25A	Max. Current 40A
400 V	2500 VAC	4.5 - 5.5VDC	HHG1F-3/5 10A	HHG1F-3/5 25A	HHG1F-3/5 40A	
400 V	2500 VAC	9 - 11VDC	HHG1F-3/10 10A	HHG1F-3/10 25A	HHG1F-3/10 40A	

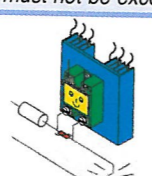
**Note control voltage must not be exceeded



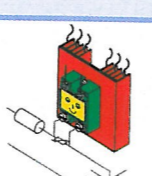
1. In general
Current, voltage, temperature and load type are crucial factors when mounting SSRs. This applies to single as well as 3-phase relays.



2. Protection against overload
The relay is to be protected against overload and short-circuit by means of a semiconductor fuse.

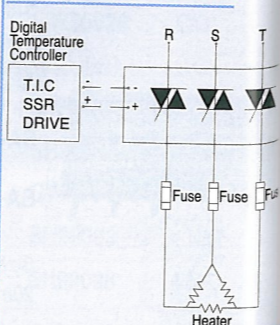


3. Protection against voltage transients
The relay must be protected against voltage transients by mounting a varistor across the semiconductor.



4. Protection against excessive heating
The relay must be protected effectively against excessive heating. Do not forget to apply conducting paste between relay and heatsink.

Heater Connection



SOLID STATE RELAYS

RS-Series S.S.R.

• Triac or Alternistor switching mode • LED indication • Protection cap.
Zero switching 1 phase solid state relays for resistive, inductive and capacitive loads

Load Voltage	Non-Rep. Peak Voltage	Control Voltage	Max. Current 10A AC1 (2A) AC3	Max. Current 25A AC1 (5A) AC3	Max. Current 40A AC1 (8A) AC3
230VAC _{RMS}	650Vp	4.5-32VDC 18-36VAC/DC	RS1A23D10	RS1A23D25	RS1A23D40
480VAC _{RMS}	1200Vp	4.5-32VDC 18-36VAC/DC	RS1A23LA10	RS1A23LA25	RS1A23LA40
			RS1A48D10	RS1A48D25	RS1A48D40
			RS1A48LA10	RS1A48LA25	RS1A48LA40



RS

RM-Series S.S.R.

Zero switching 1 phase solid state relay. Thyristor switching
• LED indication • Built-in varistor • Protection cap

Load Voltage	Non-Rep. Peak Voltage	Control Voltage	Max. Current 25A AC1 (5A) AC3	Max. Current 50A AC1 (10A) AC3	Max. Current 75A AC1 (15A) AC3	Max. Current 100A AC1 (20A) AC3
230VAC _{RMS}	650Vp	4-32VDC 24-265VAC 24-48VDC	RM1A23D25	RM1A23D50	RM1A23D75	RM1A23D100
480VAC _{RMS}	1200Vp	4-32VDC 24-265VAC 24-48VDC	RM1A48D25	RM1A48D50	RM1A48D75	RM1A48D100
600VAC _{RMS}	1600Vp	4-32VDC 24-265VAC 24-48VDC	RM1A60D25	RM1A60D50	RM1A60D75	RM1A60D100
			RM1A60A25	RM1A60A50	RM1A60A75	RM1A60A100



RM1A



RM1C

Peak switching 1 phase solid state relays

For inductive loads with iron core (eg neon lighting transformers)

400VAC _{RMS}	800Vp	4-32VDC	RM1C40D25	RM1C40D50
600VAC _{RMS}	1400Vp	4-32VDC	RM1C60D25	RM1C60D50

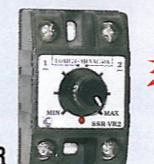
Analog switching 1 phase solid state relays (with proportional output)

For resistive, inductive and capacitive loads

Load Voltage	Non-Rep. Peak Voltage	Control Voltage	Max. Current 10A	Max. Current 15A	Max. Current 25A	Max. Current 40A
90-280VAC	650Vp	4-20mA DC	RE2425-AA06	RE2450-AA06		
265-530VAC	1200Vp	4-20mA DC	RE4825-AA12	RE4850-AA12		
90-280VAC	650Vp	0-200K Ω	R2425 (25A)	R2441 (41A)	Supplied c/w 100K POT	



R2425 & R2441



SSR-VR

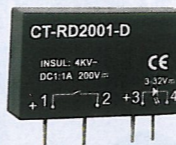
For resistive, inductive and capacitive loads. Built-in potentiometer.

24-380VAC	600V Peak	Pot-fixed	SSR-VR2-10	SSR-VR2-15	SSR-VR2-25	SSR-VR2-40
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Isolation Voltage: >2500VRMS

DC switching solid state relays - Size (mm) 42L x 25W x 10D

Load Voltage	Control Voltage	Max. Current 1A	Max. Current 5A
3-60VDC	3-32VDC		RD0605-D
3-200VDC	3-32VDC	RD2001-D	
3-350VDC	3-32VDC	RD3501-D	



RD

SSR ACCESSORIES AND HEAT SINKS

Heat Sinks



RHS45A

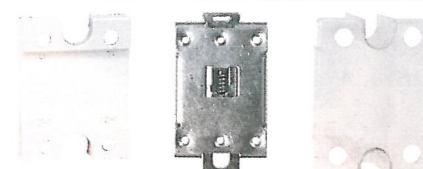
RHS100

RHS301

Code	Size L x W x D	SSR	Mounting
RHS45A	85 x 50 x 95	Single Phase	DIN Rail
RHS100	75 x 45 x 75	Single Phase	DIN Rail
RHS127	127 x 70 x 50	Single Phase	Screw
RHS180	180 x 125 x 50	Single Phase	Screw
RHS300	75 x 110 x 5	Three Phase	DIN Rail
RHS301	105 x 145 x 110	Three Phase	DIN Rail
RHS105	105 x 100 x 80	Three Phase	Screw
RHS150	150 x 125 x 125	Three Phase	Screw
RHS120	200 x 125 x 135	Three Phase	Screw

Accessories

- RMIP20** Spare cover for RS1 & RM1
- RHS00** DIN rail adaptor for 1 phase
- BRR** Clear cover for 1 Phase



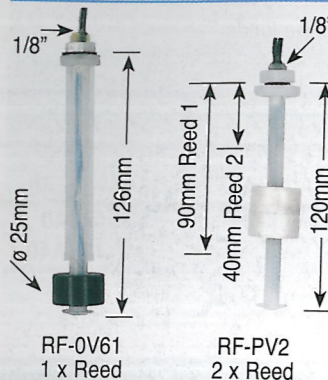
RMIP20

RHS00

BRR

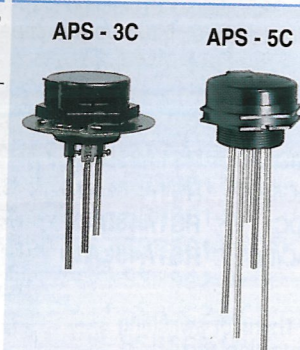
LEVEL PROBES & SENSORS

More Float Switches



- RF-OV61**
1 x Reed
- RF-PV2**
2 x Reed
- Thread Size: 1/8" PF
- Output Reed Switch @ 1A 250VAC
- Switching
1xReed Switch NO
2xReed Switches Top NO, Bot. NC
- Max Pressure: 4kg/cm²
- Material: Polypropylene (PP)
- Specific Gravity: 0.7 S.G.

Probe Assemblies



- APS-3C** 3-way
- APS-5C** 5-way
- 3 or 5-way holder
- Steel locking ring
- 3 or 5 x 1m 304 S/S probes
- Suitable for use with all liquid level relays
e.g. TE101 - APS-3C,
DLR - APS-5C
- Max temperature: 100°C
- Cut Probes to suit application

Probe Components

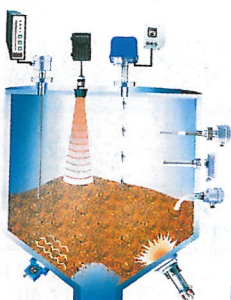


- | Description | Code |
|--------------------------------------|----------------|
| 3 Probe holder only (6 mm thread) | APS-3 |
| 5 Probe holder only | PS-5S |
| Steel Locking ring for holders | AF-12 |
| Spacers (porcelain) | PF-101 |
| Spacers (plastic) | PF-101P |
| Connecting nut (304 stainless steel) | PF-102 |
| Tank probe | PF-104 |
| 1 Metre 304 stainless steel rod 6mmØ | PF-103 |

Universal Sensor



- | Code | LLS2.5/5 | LLS10/15 | TST2 |
|-----------------------------------------------------------------------------------|-----------|-----------|------|
| 2.5m depth | 10m depth | 20m depth | |
| 5m cable | 15m cable | 25m cable | |
| • Supply voltage: 11 to 40VDC | | | |
| • Output: 4-20mA | | | |
| • Stainless steel housing 316 S/S (for LLS sensors) | | | |
| • Temperature: -20 to 85°C | | | |
| • Linearity ±0.2% OFF.S. | | | |
| • The stainless steel strainer-cap easily removed for cleaning (for LLS sensors). | | | |
| • Insulation: >100mΩ @ 250VDC | | | |



Optical Level Sensor IP68



- SD10G-ARN1** (NPN NO)
- SD10G-ARP1** (PNP NO)
- VP02-230TB** Un-modulated
- Length of cable: 2 metres
- Switching Voltage: 10-28VDC (NPN, N.O.) / 230VAC (N.O.)
- Operating Temperature: -20°C to 80°C
- Material: Polysulphone
- Switching Current Max. (A): DC: 100mA / AC: 100mA
- Max ambient light: 5000 lux / 100 lux

Capacitive Level Sensors for Solids

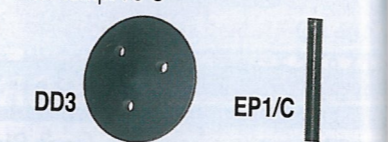


- Capacitive level sensor for solid, fluid or granulated substances.
- 32mm Ø
- VR1A** 8mm Sensing
- VR1B** 15mm Sensing
- 5 metres
- 20-30VDC (1kΩ)
- 0°C to 70°C
- Polyester
- 10A @ 250VAC
- For use with amplifier Relay Type **CLR2** pg 10

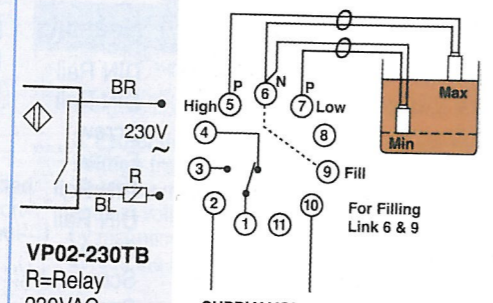
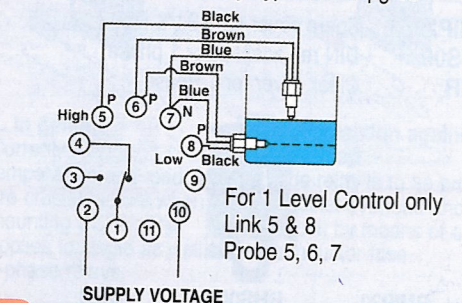
Conductive Probe Kits IP65



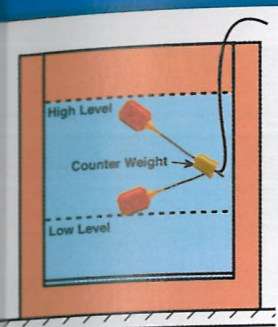
- Coated CP2/C** 2-Way
- CP3/C** 3-Way
- Uncoated CP2** 2-Way
- CP3** 3-Way
- c/w 2 x 1 Metre x Ø 4mm Rods
- c/w 3 x 1 Metre Ø 4mm Rods
- Material: Nylon
- Thread: 1.5" BSP
- Max Temp: 70°C



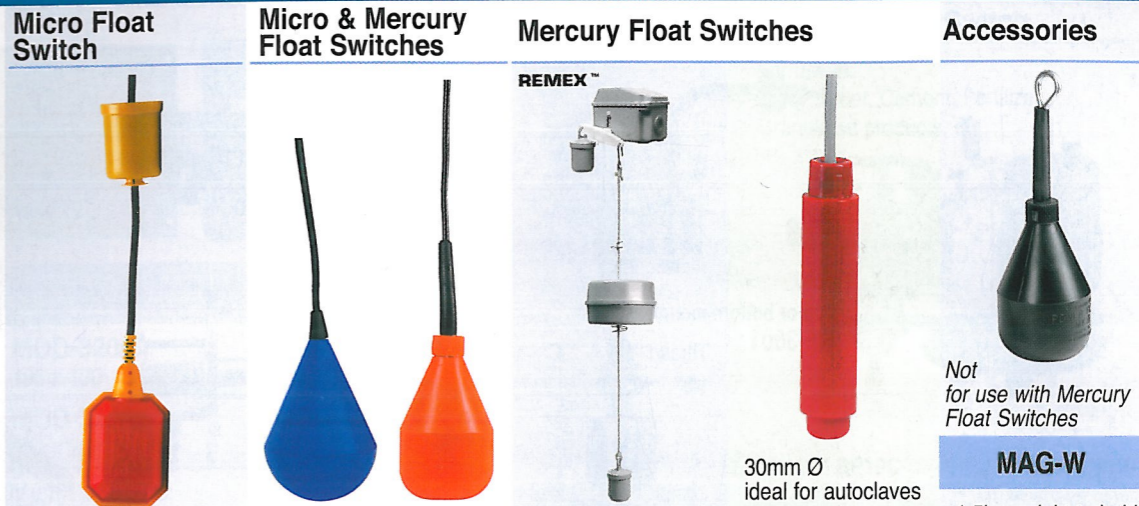
- Accessories**
- | Code | Description |
|----------------|---------------------------|
| CP2/CX | 2-Way head only |
| CP3/CX | 3-Way head only |
| DD2 | 2-Way Probe Spacer |
| DD3 | 3-Way Probe Spacer |
| EP1/C | Spare 1m s/s Rod coated |
| EP1/U | Spare uncoated s/s Rod 1m |
| EP1/EXT | M4 Connecting Nut Brass |
- Coating of the rods improves resistance, prevents switching caused by frothing or condensation.



FLOAT SWITCHES

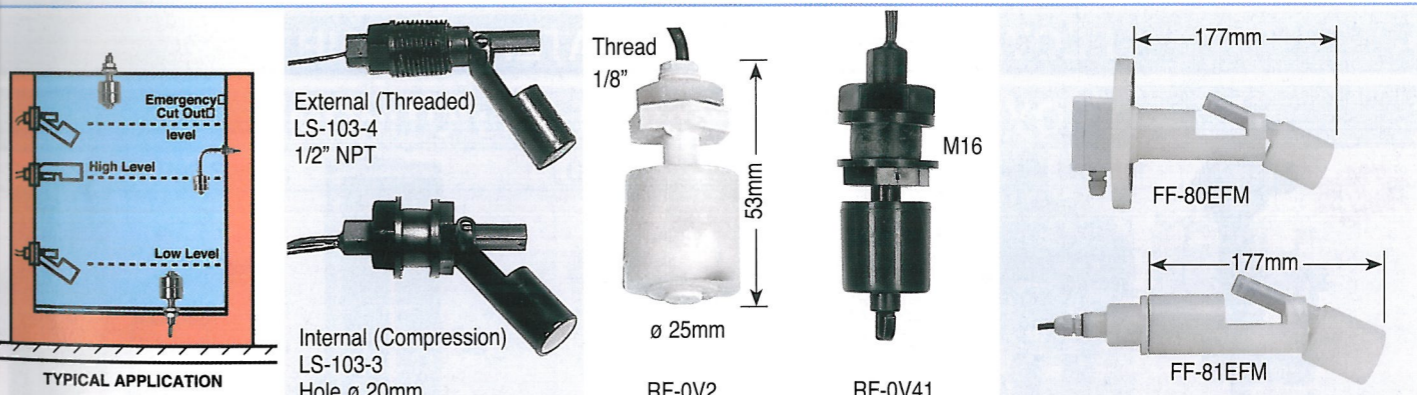


Typical Application showing use of 1 B-01 float switch to start and stop pump. One B-01 Float Switch can be used for both high and low levels.



Code	B-01/5	B-01/10	MAG-*	MER-*	REMX-P	MER30/5
Length of cable	5metres	10metres	*Add 05, 10, 15, 20metres		1m Float Cord No cable	5 metres
Weight supplied	✓	✓	✓	N/A	✓	N/A
Switching Voltage Max.	240VAC/200VDC		220VAC		440VAC/200VDC	250V
Switching Current Max. (A)	4A		4A	0.5A	5A	5A
Carry Current Max. (A)	15A		6A	1A	10A	-
Switch type	Micro C/O		Micro NO+NC	Mercury C/O	Mercury N.O.	Mercury N.O.
Operating Temperature	0-60°C		-20°C to 50°C		-20°C to 70°C	-20°C to 60°C/8 bar
Material	Polypropylene/Cable P.V.C.		Moplen/Cable P.V.C.		ABS.	Moplen
Resistance to:	Water & weak Acids		Water & weak Acids		Water	Water & weak Acids

Plastic Reed Float Switches

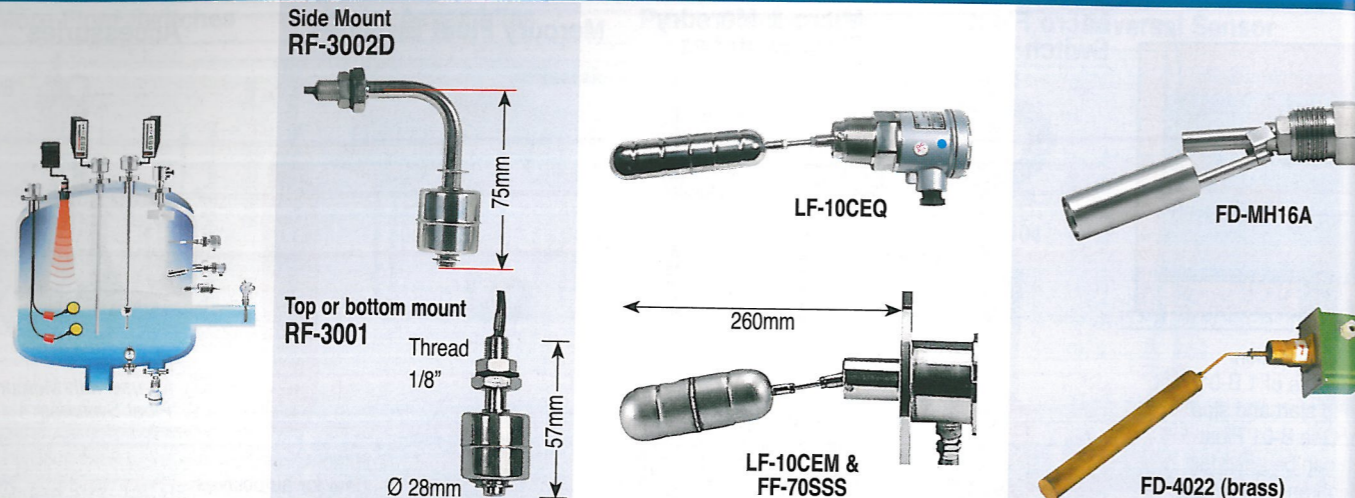


Code	Internal LS-103-3	External LS-103-4	RF-0V2	RF-0V41	FF-80EFM	FF-81EFM
Mounting	Compression				Flange	M20
Thread size	M16	1/2" NPT	1/8" PF	M16	2" x 5kg/cm ²	Connection Screw
Length of cable	300mm		300mm		300mm	
Switching Voltage Max.	240VAC/200VDC		240VAC/200VDC		240VAC/200VDC	
Switching Current Max. (A)	0.5A		0.5A		0.5A	
Carry Current Max. (A)	1A		1A		1A	
Switch type	Reed Switch N.O.		Reed Switch N.O.		Reed Switch N.O.	
Max. Pressure (kg/cm ²)	4		1	4	10	
Operating Temperature	-20°C to 80°C		-20°C to 80°C		-10°C to 80°C	
Material	Polypropylene (PP)		Polypropylene (PP)		Polypropylene (PP)	
Suitable Specific Gravity	0,7 g/cm ³		0,7 g/cm ³		0,6 g/cm ³	
Resistance to:	Water, Acids & Oils		Water, Acids & Oils		Corrosive liquids, i.e. Acids, Seawater etc	

LEVEL, PUMPS & TELEMETRY

LEVEL, PUMPS & TELEMETRY

STAINLESS STEEL FLOAT SWITCHES IP65



Code	Top/Bottom RF-3001	Side Mount RF-3002D	LF-10CEM	LF-10CEQ	FF-70SS	FD-MH16A	FD-4022
Mounting	1/8" PF	1/8" PF	Flange	1 1/2" PT	Explosion Proof Flange	1/2" PT Adaptor	1"
Thread size	1/8" PF	1/8" PF					
Length of cable	300mm					300mm	
Switching Voltage Max.	240VAC/200VDC		250VAC/200VDC			250VAC	
Switching Current Max. (A)	0.5A		2A			5A	
Carry Current Max. (A)	1A		5A			16A	
Switch type	Reed Switch N.O. or N.C.		Reed switch 1C/O			Reed switch N.O.	Micro Switch C/O
Max. Pressure (kg/cm ²)	10		15kg/cm ²		10 Bar	10 Bar	
Operating Temperature	-20°C to 120°C		-25 to 100°C			-10 to 120°C	
Material	304 Stainless Steel		Housing: Aluminium IP65, Wetted parts 304 S/S			304 Stainless Steel	Brass
Suitable Specific Gravity	0.75 S.G.		0.65 S.G.		0.25 S.G.	0.8 S.G.	
Resistance to:	Water & Liquids		Water, Acids & Oils			Seawater, Corrosive Liq.	Non-Aggressive Liq.

FLOW SWITCHES FOR WATER AND AIR

Flow Switches for Water

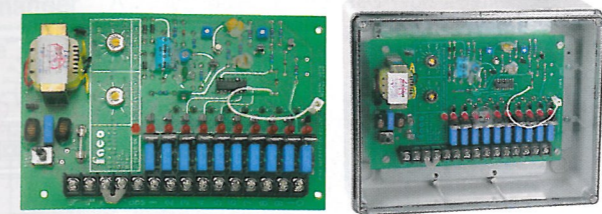
Flow Switch for Air

Bargraph Panel Meter



Code	FS-80	FS-2533	AS-2614	PM5022R3 / PB-1471	1B94M-B
Housing material:	Aluminium (IP65)	3 Different Paddle lengths, 57, 88 & 167mm	ABS (IP64) with steel base	Multirange input: 0-5V, 0-10V, 4-20mA, 20-4mA, 0-25.4mA	Input: 4-20mA
Paddle material:	304 S/S	Housing material: ABS (IP64)	Paddle material: Tinned S/S	4 point alarm (HH, H, L, LL)	Display: 0-100%
Switch:	SPDT, 1A @ 230VAC	Paddle material: 304 S/S	Switch: SPDT, 16A @ 230VAC	4 relay outputs (5A, 250VAC) and 4-20mA output	Accuracy: 1%
Operating temperature:	-30 to 150 °C	Switch: SPDT, 16A @ 230VAC	Operating temperature: -20 to 80 °C	Scaling function (0-1099)	Response time: <500ms
Operating pressure Max:	2000 PSI	Connecting: 1" PT screw Brass	Min cut-in value 2m/sec	Alarm delay on/off 0-3 sec adj.	Size: 96 x 24mm, Cutout: 92 x 23mm
Pressure drop allowance:	3 PSI	Operating pressure Max: 10kg/cm ²	Min cut-out value 1m/sec	Under/over range indication	Complete with 230/24VDC power supply
Set point tolerance:	±25%	Set point tolerance: ±25%	Weight: 400g	Accuracy 0.1%	
Repeatability difference:	±5%	Repeatability difference: ±5%		Built in 24VDC sensor voltage	
Connecting:	1" PT screw	For piping 1" to 8"		See page 32 for Level Sensors	
Weight:	850g	Adjustable setting			
Spare Paddle:	FS-80 PADDLE	Weight: 660g			
		Spare Paddle: FS-2533 PADDLE			

VALVE & CONTROLLER FOR DUST COLLECTOR SYSTEMS



Type	2-10 Steps	2-40 Steps
Code	MOD-320/S	MOD-420/S
Board only Size	195 x 130	195 x 130
Code	MOD-320/B	MOD-420/B
Complete with box Size	250 x 200	320 x 250

- Supply voltage: 110V or 220V ±10%, 50/60Hz
- Pulse Frequency Range of Adjustability: 2-60sec
- Fuse: 3A 250VAC
- Pulse Duration Range of Adjustability: 20-200ms
- Number of sequenced steps: 2-10 steps
- Operating Temp: 0-60°C

Solenoid Valve (for air only)



Volts	Code 20mm	Code 25mm
230VAC:	RDA20SC2	RDA25SC2
110VAC:	RDA20SC1	RDA25SC1
Supplied complete with coil.		
Medium pressure 6kg/cm ²		
Medium Temperature 90°C		
Material: Aluminium		
		Spare Coil
		RDA-230VAC
		RDA-110VAC

PROBE & ROTARY LEVEL SWITCHES

Vibration Probe Switch Rotary Paddle Switch



For use in:
Milk Powder, Cement, Fertilizer, Granulated products, etc.

SC1110	Code	RP10C	RP80C
Mounting Thread 1"	Mounting thread size	1"PF	3/4"PF
Probe Material S/S 304	Torque	0.5-1kg	30-100g/cm
Housing Alu. IP65	Specific Gravity	>0.50 S.G.	<0.3 S.G.
Output: 5A @ 250V 1C/O	Contact Type	Micro switch 1C/O	
Supply: 0-110-230VAC	Contact Rating	5A	
Vibrating Frequency: 360-370Hz	Operating Temp	-10 to 60°C	
Operating Temp.: -10 to 80°C	Housing Material	Aluminium IP65	
Material Density: 0.32g/cm ²			
Spare Paddle	Code	RP10-PADDLE	RP80-PADDLE

MONITORING DEVICE FOR CONVEYORS

Safety Cable Pull Switch

Conveyor Belt Switch

Speed Monitor



Code	SRS	SRT
Specification		
Switching Capacity	10A @ 250VAC SPDTx2	10A @ 250VAC VDC SPDTx2
Action Force	49 ± 9.8n (5±1kgf.m)	3.4-5.4N.m (0.35-0.55kgf.m)
Reset Way	Manual	Auto
Ambient Temp	-20-60°C	-20-60°C
Enclosure Protection Grade	IP67	IP67
Enclosure Material	Die cast ADC	Die cast ADC
Weight Approx.	Approx. 2.9kg	Approx. 2.9kg
	Bi-direction pull switch and cable breakage safety switch.	Use for conveyor systems monitoring belt Misalignment.

ED400

Specification

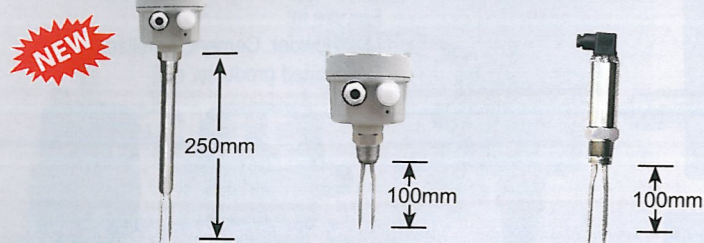
- Measuring range: 0~999rpm
- 7-seg LED display: 0~999
- Alarm set point: 1~1999rpm by rotary switch
- Rotate direction: Counter clockwise or clockwise
- Alarm conditions: Underspeed, Standstill, Reverse, Power failure
- Speed analog output: 4~20mA
- Power supply: 85~265Vac, 50/60Hz
- Operating temperature: -20~70°C
- Housing: Cast Aluminium
- Protection IP65

Features

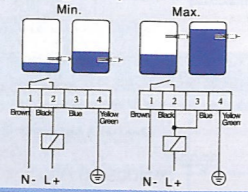
- Speed monitor is a totally new rotational speed monitoring device.
- It uses the principle of photo detector and microprocessor to accurately calculate a wide range of rotational speeds.
- 3 Set points for alarm positions SW3, SW4 and SW2 for Rotary Switch.
- 1 Set point for Alarm Delay Switch.

TUNING FORK LEVEL SWITCH IP65

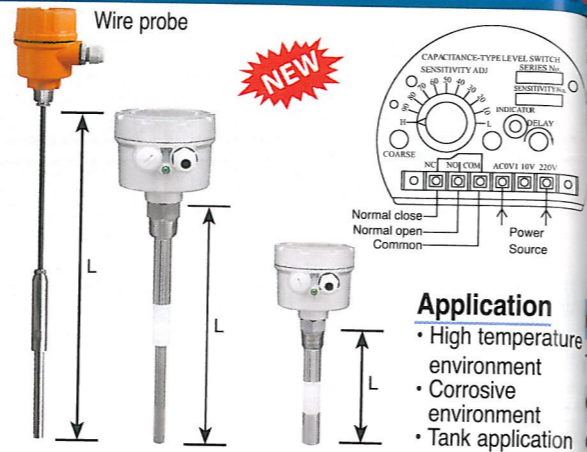
Vibration Fork Level Switch



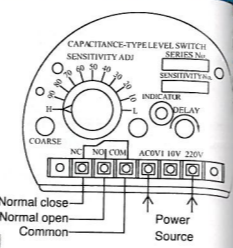
Code	SC3410-R	SC3400-R	SC2406-D
• Mounting Thread	1" PT		
• Probe Material	316		
• Housing Alu.	IP65		
• Output:	5A @ 250V, N/C-N/O for SC3410-R & SC3400-R		2Wire 3mA
• Supply Voltage:	20-250VAC, 50/60Hz VAC/DC		20-250VAC, 50Hz
• Vibrating Frequency	350~370Hz		2 Wire electronic switch
• Operating Temp in Bin:	-40~130C		Fork Length: 100m
• Material Density:	>0.07 g/cm ³		Operating Temperature: -40~60°C



CAPACITIVE LEVEL SWITCH IP65



Code	SA150A	SA111A-DQ-250	SA110A-DQ-150
• Mounting Thread	1"PT		
• Probe Material	Stainless Steel 304		
• Housing Alu.	IP65		
• Output:	5A @ 250V, Relay		Sensitivity Range 10pf, STD
• Supply Voltage	110/230VAC 50/60Hz		Operating Temp in Bin: -20°C - 60°C
			Operating Pressure 20kg Cm3



Application

- High temperature environment
- Corrosive environment
- Tank application

TWO WAY RADIO PMR 446

General	Semi-Professional	Professional
<p>Blister Kit includes:</p> <ul style="list-style-type: none"> • 2 x Radios • 2 x Wall chargers • 6 x AAA rechargeable batteries • 2 x Belt clips <p>Can be used as a BABY MONITOR</p>	<p>Kit includes:</p> <ul style="list-style-type: none"> • 2 x Radio • 2 x Wall charger • 2 x 800mA battery pack • 2 x Belt clip • 1 x Dual desktop charger 	<p>Kit includes:</p> <ul style="list-style-type: none"> • 1 x Radio • 1 x Desktop charger • 1 x Wall charger • 4 x Rechargeable batteries • 1 x Belt clip <p>WATERPROOF</p>

Code	G5 XT (Kit)	G7 XT (Kit)	G9	PACIFIC IPX5
Range	5.5km	8km	10-12km	10-12km
Channels	8 + 16 pre-programmed PMR446	8 PMR446, LPD69	Dual band 8 PMR446+16 pre-programmed	20 + 16 pre-programmed 156 to 162MHz
CTCSS & DCS tones	38 CTCSS	Dual Band	38 CTCSS, 104 DCS	38 CTCSS, 104 DCS
Operate with	3 rechargeable batteries 800mAh AAA Ni-MH	Battery pack 800mAh or 4 AA rechargeable batteries	4 rechargeable batteries AA 1800mAh or 4 AA alkaline (opt)	Battery pack 800mAh 1800mAh or 4 AA alkaline (opt)
Autonomy 5/5/90	Up to 35hrs with alkaline batteries	Up to 18hrs with 800mAh	Up to 12hrs with 800mAh	Up to 12hrs with 800mAh
Display	Backlit multi-function LCD	Backlit multi-function LCD	Backlit multifunction LCD	Backlit multifunction LCD
Transmission Power	PMR446 500mW ERP	PMR446 High (~500mW)	PMR446 High (~500mW)	5 Watt (1W/5W)
Dimensions (WxHxD)r	50 x 85 x 25mm	58 x 122 x 34mm	58 x 110 x 32mm	62 x 122 x 35mm
Working Temp	-20° to +55°C	-20° to +55°C	20° to +55°C	from -15° to +55°C
Weight	74g	123g	114g (without batteries)	137g

Features: Scan, Vox, Keypad lock, Roger Beep, Battery Indicator.

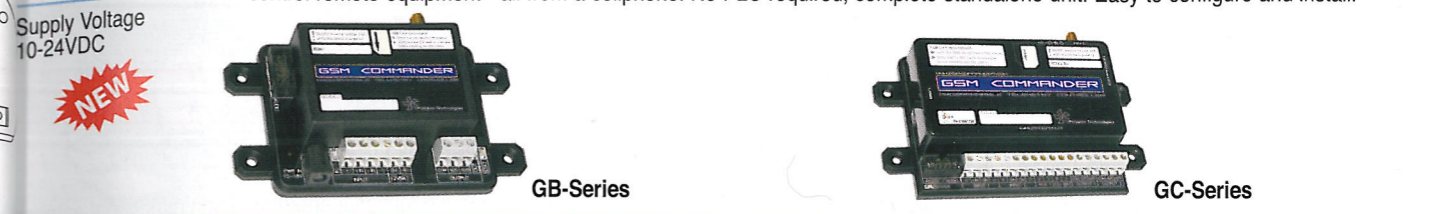
Accessories

Code	R72701	R72005	MA28-L	AE38	MW904	ALG7	PB-ATL/G7	C785
Description	Belt Clip	Belt Clip	Microphone with earphone	Throat Microphone PTT or finger PTT	Wall Charger	Car Charger	Rechargeable Pack	Desktop Charger
Model	G5	G7, G9 & Pacific	All	All	All	G7, G9 & Pacific	G7, G9 & Pacific	G7

GSM / TELEMETRY CONTROLLERS

GSM Commander

A product range used for PLC-Type Telemetry applications. Allows users to be notified of remote events and enables the user to control remote equipment - all from a cellphone. No PLC required, complete standalone unit. Easy to configure and install.



Code	GB0101-*	GC0321-*	GC0641-*	GC1281-*
Type	Baby	Generic PLC	Generic PLC	Generic PLC
Onboard Inputs	1	2	2	2
Onboard Outputs	1	2	2	2
Max. Extendable I/O	none	12/12	22/22	32/32
No. of Statements	n/a	32	64	128
Setup Memory	n/a	2kB	4kB	8kB
0-100°C Probes Supported	0	2	2	2
0-10V Analogue Inputs	0	1	1	1
Battery/ Power Monitors	yes	yes	yes	yes
USB Configuration	no	yes	yes	yes
DTMF Decoder	no	no	yes	yes
SIM Card Slots	single	single	single	dual
Dimensions (mm)	127 x 73 x 28	148 x 86 x 28	148 x 86 x 82	148 x 86 x 28

* Specify if you would like to order a kit or only a base unit. Add to code: **OEM** (base unit only) or **BOX** (kit including basic antennae, power supply, USB cable and software CD (GC-Series only)).

Features

Digital Inputs: Opto-isolated. Can accept DC signals of any type. (Dry Contacts, Open Collector (PNP/NPN), DC Voltage (10-20V)).

Digital Outputs: SPDT 8A @ 10-48VDC or 4A @ 110-400VAC

Supply Voltage: 10-24VDC (12VDC) Can accommodate a 12V 1.2Ah backup battery. Code for battery **BATT1.2AH**. c/w built-in charger

Consumption: 60mA at idle (no inputs or outputs active)

DTMF Decoder: If present the unit is able to detect and respond to key presses during a voice call.

SIM Card Slot: If the unit only has one slot and the SIM card or network becomes faulty the unit will lose communication. If Dual, the unit can switch over to the secondary SIM card if it detects a problem, thus greatly enhancing reliability.

No. of Statements: A measure of the complexity that can be programmed into the unit. Each statement is in the form IF <ABC Happens> THEN <do something>. eg. IF Input 1 goes active THEN send "Generator tripped" to 083 123 1234

Programming: Unit can be programmed using the software supplied via USB or via SMS

GSM Commander	
Code	Description
GX0505	5 x Input and 5 x Output Expansion Module
Dimensions: 147 x 103 x 28mm	
Accessories	
Code	Description
GT002	Temperature interface to connect 2x temp. probes to "GC" units
GT001-1	Temperature probe for "GC" units 0-100°C 2m cable (requires GT002)
GT001-2	Temperature probe for "GC" units 0-100°C 4m cable (requires GT002)
GA001	Standard 0dbi dual-band antenna
GA002	3dbi Magnetic base antenna (for low signal strength areas)
GA004	5dbi Outdoor antenna
DRA18-12	1.25A 12V Regulated DIN mount power supply
PSU1410	1000mA 14V Switching Power Supply
BATT1,2AH	12V 1.2AH Sealed lead acid battery

NEW

TELEMETRY EQUIPMENT & SYSTEMS

Bidirectional Wireless Set

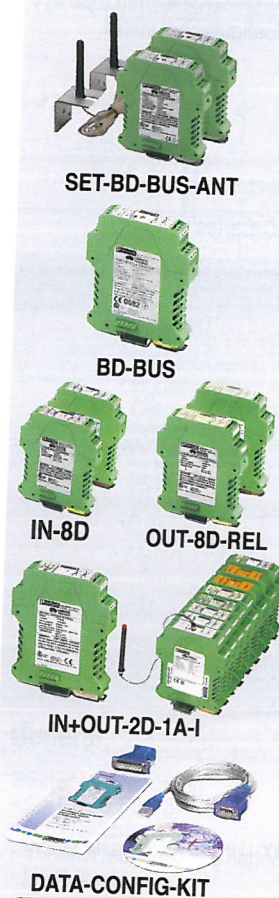
Description	Code
Two transceivers and two omnidirectional antennas with connecting cables Power requirements: 5-30V AC/DC Range: 1.5km with omnidirectional 15km parabolic antenna Inputs: 4/4 digital in/out	SET-BD-BUS-ANT

Transmitter	Code
For expansion to point-to-multipoint connections and for repeater circuits Power requirements: 12-30VDC	BD-BUS

Expansion Modules	Code
Digital Modules -8 x Digital input 5-30V AC/DC -8 x Digital output, floating N/O contact	IN-8D OUT-8D-REL

Analog/Digital Module	Code
-2 x Digital Input 5-30V AC/DC -2 x Digital output, floating N/O contact -1 x In/Out Analog 4-20mA	IN+OUT-2D-1A-1

Configuration Set	Code
Consists of a Quick Start Guide, a user manual, RAD-Link software SUB-D9 interface cable on USB cable	DATA-CONFIG-KIT



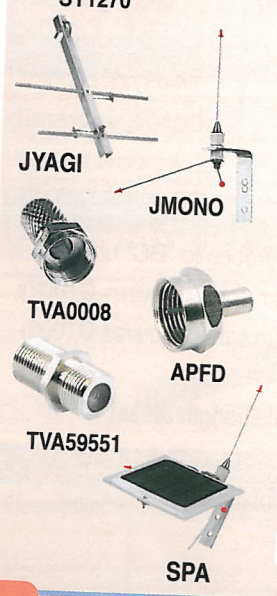
International Ex-approval: All expansion modules are certified with the 94/9/EU (ATEX) directives and IEC Ex and can therefore also be used internationally in potentially explosive areas

Integrated Transmitter and Receiver

Description	Code
Suitable for remote switching and monitoring, can also be used as a repeater station. Power requirements: 12VDC Inputs: 8 digital Outputs: 8 open collector 30Vdc max	JIO

Power Supplies	Code
3A 12V regulated power supply*; Battery 7A/H 12VDC sealed lead acid *If used with a battery set at 13.6VDC	DPSU/3/12 SY1270

Accessories	Code
3km loose antenna	JMONO
10km loose antenna	JYAGI
Aluminium antenna support pole	JSP
3m x 38mm dia. Wall mounting c/w bracket	SPA
Monopole aerial and solar panel, 3km range	RB-4L 12VDC
Relay interface board 4 x 10A 400V C/O contacts	RB-8L 12VDC
Relay interface board 8 x 10A 400V C/O contacts	RB-8L 12VDC
Coax connector to JIO	TVA0008
Coax connector to JYAGI antenna	APFD
Coax connector female to female	TVA59551
Coax cable per metre, 75Ω	RG59U

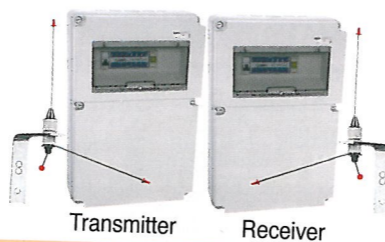


Accessories

IP65 Gain 2dB	IP65 Gain 3dB
Omnidirectional antenna ANT-OMNI-2-1	Omnidirectional antenna ANT-VAN-3-0-SMA
IP55 Gain 6dB	IP55 Gain 8dB
Omnidirectional antenna ANT-OMNI-6-0	Panel antenna ANT-PAN-8-0
IP55 Gain 19dB	IP20
Parabolic Antenna ISM-2400 ANT-PAR-19-0	Surge Protection LAMBDA/4-2.0-BB
IP20	IP55 3m length
Antenna splitter SPL-4-SMA	Antenna cable type EF 30 CAB-EF393-3M

Transceiver Systems

A fully assembled system comprising of two transceiver stations, in polycarbonate enclosures, each complete with a JIO transceiver, power supply, battery back-up, antenna and support poles



Description	Code
2 x 230VAC supply transceiver stations 3km range (monopole)	SYS-TX1
2 x 230VAC supply transceiver stations 10km range (YAGI)	SYS-TX2
1 x 230VAC + 1 solar supply transceiver stations 3km range	SYS-TX3
1 x 230VAC + 1 solar supply transceiver stations 10km range	SYS-TX4

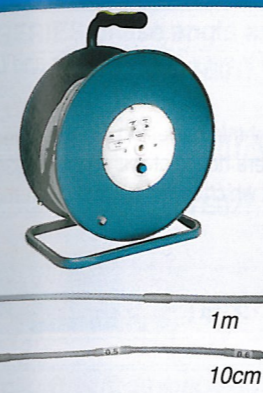
Custom made systems are available to suit clients applications

BOREHOLE & PUMP CONTROLS

Borehole Depth Tester

The water level meter is portable, sturdy and highly technological. Used for measuring water levels in tube wells, boreholes, tanks, etc.

Description	Code (scale 1m)	Code (scale 10cm)	Specifications
50 metre tester	BDT-050	BDT-050/10	Probe Material: Stainless steel AISI 303 Cable Reel Material: Steel Battery: 9 Volt, alkaline, type 6LR61 or similar
100 metre tester	BDT-100	BDT-100/10	
150 metre tester	BDT-150	BDT-150/10	
200 metre tester	BDT-200	BDT-200/10	Features • Integrated electronics with both light and sound indication • Low power consumption • Long battery life • Temperature insensitive • Probe 10mm Ø
250 metre tester	BDT-250	BDT-250/10	



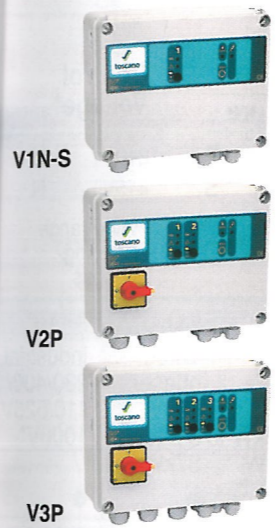
Vigilec Pump Controllers IP56

Code	Description
V1N-S	Single pump control and protection unit for single and three phase pump, from 1 to 12 Amps AC3 230/400VAC

Features

- Polycarbonate enclosure **IP56**
- Anti motor jamming via 1 sec start period if pump idle for 24 hours
- Input for remote starting and stopping
- Manual and auto control
- Dry run protection via high and low probes

Code	Description
V2P	Dual pump control and protection unit with features as above for V1N-S but with controls for alternating the duty of the two pumps
V3P	Three pump control and protection unit with features as above for V1N-S but with controls for alternating the duty of the three pumps
V2B	As V2P but for Sump Pump Control up to 5.5kW 400VAC



TELEMETRY SYSTEMS

600* metre Transmitter and Receiver Kit

Power Supply: Transmitter 230VAC or 12VDC Receiver 230VAC
Operation: 6A relay output/s will stay made as long as transmitter input contact is closed

Description	Code
1 Channel Tx & Rx Above includes built in antennas for 600 metres. 433.94MHz 400mW	THR-300

Accessories

Description	Code
YAGI* antenna to increase range to 1.5km, use with one end only	TYAGI
Support pole for YAGI antenna	SP-20
Spare standard antenna	TANT

30km Transmitter and Receiver

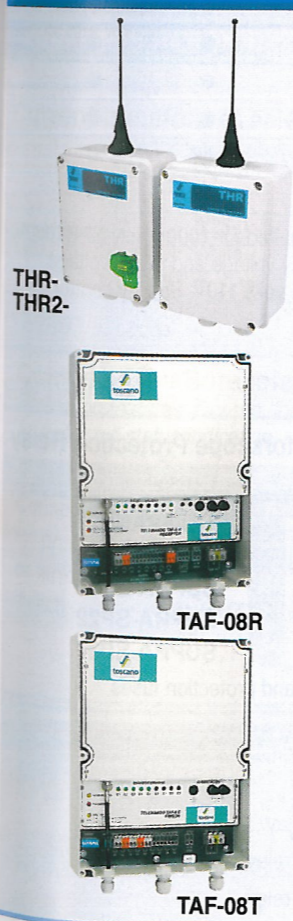
Ideal for pump control, security and supervision applications
• Power Supply: 230VAC or 8 x 1.5V AA alkaline batteries
• Enclosure: Polycarbonate **IP65**
• Protection against lightning strikes
• Low battery detection and transmission

Transmitter	Code	Receiver	Code
2 Channel	TAF-02T	2 Channel	TAF-02R
5 Channel	TAF-05T	5 Channel	TAF-05R
8 Channel	TAF-08T	8 Channel	TAF-08R

All the above supplied with a standard antenna ±30km

Accessories

Description	Code
Support pole antenna	SP-20
Spare standard antenna	TAF-ANT
1.5V AA alkaline battery	BA-1.5



BOREHOLE PUMP CONTROLS

DOL Borehole Pump Control Panels with TE03 Pump Protection Relay

Protection features: Dry run, locked rotor, overload, phase failure/reversal/imbalance, over/under voltage, auto calibration for easy commissioning and LED array for full status indication.



Each control panel is supplied complete with an AC3 rated contactor, CT (where required), lightning arrestors, TE03 protection relay, "power on" and "pump run" neon indicating lights and an "ON-OFF" selector switch where no isolator is fitted. All 230V single phase panels have space provided within the enclosure to fit the capacitor control box which is supplied with the motor.

Options notes:

Pressure/Float switch control includes a 5VDC control circuit and connection terminals.

Irrigation Controller control includes a 24VAC pump start relay with connection terminals.

Enclosures: /S - Steel IP55 orange; /P - IP56 polycarbonate.

Order Code: **B** [Color boxes] / [Color boxes] / [Color boxes] / [Color boxes] Order Code example: **B09T/IS/PS/P V**.

Voltage and Motor size

For 400V 3 Phase motors

4kW	09T
5.5kW	12T
7.5kW	18T
11kW	25T

For 230V 1 Phase motors

1.1kW	09S
1.5kW	12S
2.2kW	18S

Other sizes available:

15kW (32T), 18.5kW (40T), 22kW (50T), 30kW (65T)

Control Option

Select one only

Liquid level relay	LL
24h timer	U
Pressure/Float switch	PS
Irrigation controller	IC

Enclosure

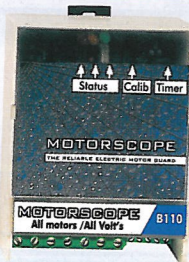
IP56 Poly	P
IP55 Steel	S

Control Voltage*

240V	U
415V	N

*Wide range operating voltages

Motorscope Pump Protection Relay



Effective protection of electric AC motors and their driven systems can be achieved by limiting the maximum as well as the minimum consumed motor power. The power consumption (kW) is calculated from the formula:
 $P = \sqrt{3} \times V \times I \times \cos \phi$

Motorscopes offer the finest pump protection and diagnostics available. Should a trip occur, the hand held Optimizer can be connected to the Motorscope to download full information on the last 30 events. The Optimizer can then be taken back to the office and via Downloader, download the information to a PC for viewing, printing and analysis of the cause of the stoppage.

Downloader

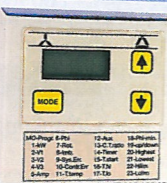
Downloader comprises of PC software and hardware to download data from a Motorscope to a PC. It can also interface between Motorscope and PC for data logging and real time graphic display of parameters.

Optimizer

The Optimizer has two functions. For commissioning, it can modify a number of the factory default settings to optimize the Motorscope for each application as well as viewing every operational parameter. For maintenance, it can download the last 30 events from the Motorscope and, in turn, download the data to a PC via Downloader.

All Motorscopes mount directly on to DIN rail.

Code	UNO	TRIO	SUPRA	B110*
	Single phase 230V	Three phase 400V	Three phase 400V	Industrial 230/400V
	0.37kW to 2.2kW	0.37kW to 5.6kW	5.6 to 37kW	110/525V to 1000V*
Running dry, under load, blocked in/outlet	●	●	●	●
Overcurrent	●	●	●	●
Phase failure/Phase reversal	●	●	●	●
Phase imbalance	●	●	●	●
Overvoltage undervoltage	●	●	●	●
Star delta and soft start connection	●	●	●	●
Tank control (float/pressure sw.) 5VDC	●	●	●	●
Locked rotor	●	●	●	●
CT 250/1 supplied with unit	●	●	●	●



*B110: Voltage conversion required for 1000V only SPH1000V
*B110 to be used where supply voltage and motor voltage differ e.g. motor 525V, control volts 110V. Specify control voltage with order.

DOL Borehole Pump Control Panels with Motorscope Protection Relay

Motor	Volts	H x W x D	Code
Up to 5.6kW	400V	220 x 165 x 150	TRIO-PANEL*
Up to 5.6kW	400V	450 x 300 x 220	TRIO-SP5,6
7.5-11kW	400V	450 x 300 x 220	SUPRA-SP11
15-22kW	400V	450 x 300 x 220	SUPRA-SP22
30-37kW	400V	450 x 300 x 220	SUPRA-SP37

*As TRIO-SP5,6 in plastic enclosure excluding isolator and protection fuses

Code	Description
PANEL 5.5-BB	Fitted with blac box
PANEL 5.5-TRIO	Fitted with Trio motorscope relay
PANEL 5.5-01	Fitted with TE01 phase angle relay + overload
PANEL 5.5-02	Fitted with TE02 phase angle relay

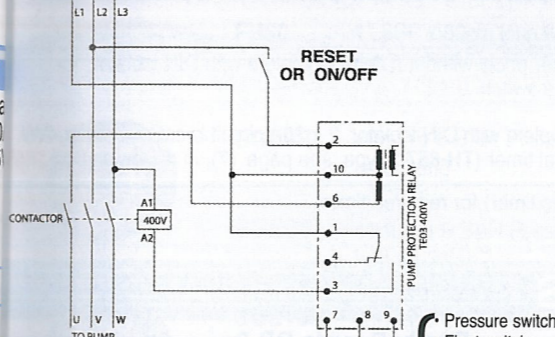
PUMP AND MOTOR PROTECTION / PHASE ANGLE RELAYS

TE SERIES phase angle and pump protection relays

- TE01:** Phase angle protection only – running dry, underload and blocked in/outlet
- TE01/S:** TE01 for use with S-D or soft start.
- TE02:** Advanced borehole pump and motor protection – compact 11-pin construction. Auto calibration
- TE03:** TE02 with tank control and rapid start protection

LED:	Green	Amber	Red	Status of TE02/TE03
On	Off	Off	Off	Normal pumping
Flash	Off	Off	Off	Dry - timing or phase failure/reversal
Off	On	Off	Off	Supply voltage low/high
Off	Flash	Off	Off	Rapid cycle
Off	Off	On	On	Motor overload or phase failure
On	On	On	On	TE02/3 uncalibrated
Flash	Flash	Flash	Flash	TE02/3 calibrating
Off	Off	Off	Off	TE02/3 unable to calibrate

TE03 CONNECTION DIAGRAM 400V 0.37kW TO 4kW



Connection diagrams vary for other voltages. CT required where FLC exceeds 10A

TE02/03 pump protection relay specifications

Supply Voltage:	Single phase 230V ± 20%, Three phase: 400V ± 20%, 525V ± 20%
Power consumption:	2VA
Calibration:	Automatic – activated by pushbutton
Dry trip level:	Calibrated phase angle and current – 10%, 2 seconds delay
Voltage trip level:	Calibrated voltage ± 10%, 2 seconds delay
Current trip level:	Calibrated current + 20%, 1 second delay
Rapid cycle:	3 starts per 15 minutes maximum (TE03)
Dry restart delay:	Adjustable 15 minutes to 24 hours
Output relay:	10Amp SPDT @ 250VAC.



	TE01 230V or 400V	TE02 230 or 400V 525 or 1000V: control voltage to be specified	TE03 230 or 400V
Plug-in	●	●	●
Running dry, under load, blocked in/outlet	●	●	●
Overcurrent adjustable	●	Self Adjusting	Self Adjusting
Phase failure/reversal	●	●	●
Overvoltage/undervoltage	●	●	●
Star delta or soft-start connection	●*	●	●
Locked rotor	●	●	●
Shunt required	●	–	–
Rapid pump start protection cut out over 12 start/hour	–	–	●
LED status	–	●	●
Calibration	Man	Auto	Auto
Tank control (float switch)	–	–	●

*TE01/S version only
For multiple pump applications, use one relay per pump.

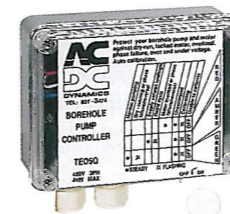
Current transformer selection for TE Series

	230V			400V												
	HP	0.36-1.1	1.5	2	3	0.5-1.5	2-7.5	10	15	20	25	30	40	50	60	75
TE01	kW	0.25-0.75	1.1	1.5	2.2	0.37-1.1	1.5-5.5	7.5	11	15	18.5	22	30	37	45	55
	Shunt	White				Red	White					White				
	CT code	–	PW155	PW205	PW255	–	–	PW205	PW305	PW405	–	DS-505	DS-755	DS-1005	DS-1505	
TE02/03	CT code	–	PW155	PW205	PW255	–	5.5kW PW155	PW205	PW305	PW405	–	DS-505	DS-755	DS-1005	DS-1505	

Compact DOL Borehole Pump Control with contactor for motors up to 4kW @ 400V and 2.2kW @ 230V

Protection features: Dry run, locked rotor, overload, phase failure/reversal/imbalance, over/under voltage, auto calibration for easy commissioning and LED array for full status indication. Housed in compact IP56 Gewiss polycarbonate enclosure with glands and on/off switch.

Connection provided for pressure switch or tanktop float switch



Failsafe design.



Code

Borehole DOL Starter with TE02 Protection

TE05M	Pump controller for 230V single phase motors up to 0.75kW
TE05M-1	Pump controller for 230V single phase motors for 1.1 to 2.2kW
TE05Q	Pump controller for 400V three phase motors up to 4kW
TE05Q-1	Pump controller for 400V three phase motors for 5.6kW

Centre Pivot Shut Down Kit

Add on kit to your existing centre pivot control panel to prevent overwatering should the pivot arm get stuck or percentage timer malfunction. Kit is supplied with CT-5 with flying leads for simple installation.

EVCT1	Centre Pivot Shut Down Kit
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POOL BOXES



Swimming Pool Boxes

Code	Description
SBX-1*	For standard pools with one light: Complete with 120VA transformer, DIN isolator, 2 x circuit breakers and 24 hour time switch. IP42
SBX-2*	For standard pools with one light plus the added convenience of a socket outlet for garden appliances. Complete with 120VA transformer, DIN isolator, 3 x circuit breakers, 24 hour time switch and 15A socket outlet. IP42
SBX-2*T	As per SBX-2 above, but with timed socket outlet. IP42
SBX-3	SPA D/B Board no wiring: Complete with DIN isolator, 2 x 20A circuit breakers, one x 4kW contactor and 24 hour timer SD Type. IP42
SBX-4*	As per SBX-1, completely weatherproof. IP65
SBX-4A*	As per SBX-4 but with 15A socket outlet. IP65
SBX-5*	As per SBX-4, but with 300VA transformer for two lights. IP65
SBX-5A*	As per SBX-5, but with 15A socket outlet. IP65
SBX-6	For large pools with two lights: Complete with 300VA transformer, DIN isolator, 2 x circuit breakers and 24 hour time switch. IP42
SBX-7	For Jacuzzis with no light: Complete with isolator, pump CB and timer, plus 20A CB and relay for heating. IP42
SBX-8	For vinyl surface pools and other pools without a light: Complete with DIN isolator, 1 x circuit breaker and 24 hour time switch. IP42
SBX-10	SPA D/B Board no wiring. Complete with DIN isolator, 2 x 20A circuit breakers, one x 4kW contactor and 2 x 24 hour digital timer (TH-857-2 type, see page 17), in a Gewiss Box. IP42

*Add **BND** (BND-X5) or **SD** (SD or DD Orbis timer) for required timer. See page 18 for specification of timers.

READY BOARDS



Ready Boards RB-1

- 3 x 15A switched socket outlets
- 1 x 40A DP earth leakage
- 2 x 20A SP CB for socket outlets

Ready Boards RB-2

- 3 x 15A switched socket outlets
- 1 x 40A DP earth leakage
- 1 x 10A SP CB for lights
- 2 x 20A SP CB for socket outlets

Code	Size H x W x D	Description
RB-1	330 x 245 x 90	No Bulkhead with 40A DP earth leakage
RB-2	455 x 245 x 90	With Bulkhead no lamp with 40A DP earth leakage
RB-2A	455 x 245 x 90	With Bulkhead no lamp with 63A DP earth leakage

POOL FILTERS



Pool Filter

Code	Code Top Valve	Code Side valve	Filter Area	Max Flow Rate	Sand
PL-500	PL-500S	PL-500S	0.22m ²	10.8m ³ /h	85kg/ 2 bags
PL-650	PL-650S	PL-650S	0.31m ²	15.3m ³ /h	145kg/ 4 bags
PL-700	PL-700S	PL-700S	0.39m ²	19.2m ³ /h	210kg/ 5 bags

Accessories

Code	Description
HT-815	Top mount valve 1½" / 50mm unions
HT-915	Side mount valve 1½" / 50mm unions

• Suitable for residential pools and fish ponds
• Maximum working pressure: 200kPa
• Easy to use multiport valve allows easy selection of valve/ filter operations.

• Valve/ filter operations: filter, backwash, rinse, waste, closed, recirculate.
• Valve connections: 1½" / 50mm

PUMPS

Hydrospheres



Code	Description	Spare Bladders
TNK24	24 litre vertical Pump Mounting	BLA24
TNK24H	24 litre horizontal Free Standing	BLA24H
TNK24H-SS	24 litre Stainless Steel horizontal Free Standing	BLA24H
TNK50	50 litre vertical Free Standing	BLA50
TNK50H	50 litre horizontal Free Standing	BLA50H
TNK100	100 litre vertical Free Standing	BLA100
TNK200	200 litre vertical Free Standing	BLA200
TNK300	300 litre vertical Free Standing	BLA300
TNK500	500 litre vertical Free Standing	

To be used with **PS-02A 2.8** pressure switch

Accessories

	3WAY	3-way Brass connector
	5WAY	5-way Brass connector
	FH60	1" BSP x 60cm long flexible hose (s/s)
	GGE6R	40mm ø 6 BAR Pressure Gauge, rear fitting
	GGE6B	40mm ø 6 BAR Pressure Gauge, bottom fitting
	GGE10R	40mm ø 10 BAR Pressure Gauge, rear fitting
	GGE10B	40mm ø 10 BAR Pressure Gauge, bottom fitting

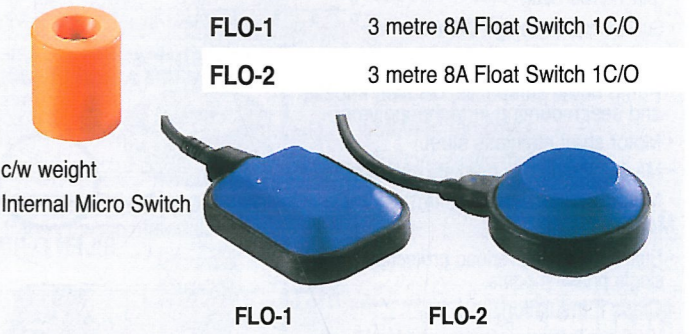
Pressurestat - DSK-2

Assembled to a pump it supplies constant pressure. Electronic controls prevent starting in the absence of water, and the reduction of water hammer. Does not require any maintenance or air - pre-charge.

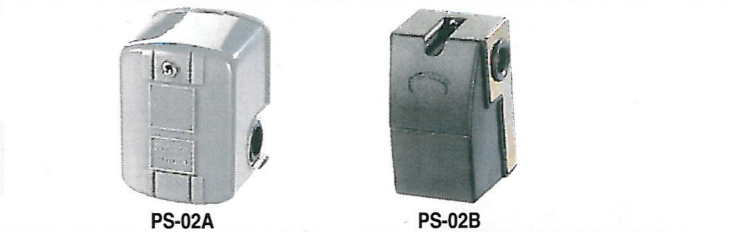
Applications:

• Specially designed for the automatic supply of water to one or more buildings. Also suitable for operation with water containing a small quantity of sand. • **DSK-2** replaces the use of costly hydrospheres and pressure switches in many systems.

Code	DSK-2	DSK-2.1
Voltage	230V	230V
Max. Amperage	10A	10A
Protection	IP65	IP65
Max. Pressure	10 bar	10 bar
Starting Pressure	1.5 bar	1.5-2.5 bar adj.
Stopping Pressure	The maximum given by the pump	
Differential Pressure	≥ 0.7 bar	≥ 0.5 bar
Max. Flow	12 m ³ /h	12 m ³ /h
Max. Building Height	15m	15-25m
Inlet Thread Ø	1" male	1" male
Outlet Thread Ø	1" male	1" male



Pressure Switches



Pressure (Bar)	Contact Rating	Pipe Thread (NPT)	Code
1.4 - 2.8	2 Pole 20A N/C	1/4"	PS-02A 2.8
2.1 - 3.5	2 Pole 20A N/C	1/4"	PS-02A 3.5
2.8 - 4.3	2 Pole 20A N/C	1/4"	PS-02A 4.3
3.5 - 5.6	2 Pole 20A N/C	1/4"	PS-02B 5.6
4.9 - 7.2	2 Pole 20A N/C	1/4"	PS-02B 7.2

CON

Code	UKV70-AB
	UKV70-AB
Float Switch	
Temp: -30°C to 80°C	
Contacts: 4A @ 250VAC	
N/O Mercury Switch	
	FLO-5
Float Switch	
Temp: -30°C to 80°C	
Contacts: 4A @ 250VAC	
N/O Mercury Switch	

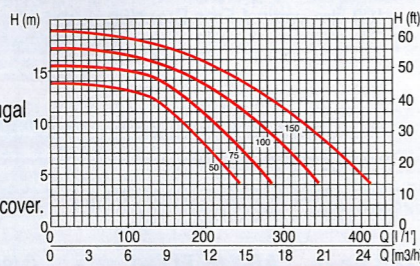
SWIMMING POOL PUMPS

2 YEAR WARRANTY ON SILEN PUMPS (excl. non-plastic mechanical parts (bearing & Mech Seals))



Silen Pumps

Code	kW	HP	Volts
SILEN 50M	0.37	0.5	230V
SILEN 75M	0.55	0.75	230V
SILEN 100M	0.75	1.0	230V
SILEN 150M	1.12	1.5	230V
SILEN 100	0.75	1	400V
SILEN 150	1.12	1.5	400V



Quiet running single-stage centrifugal pump, self-priming up to 4m.

Features

- Complete with pre-filter and clear cover.
- Mechanical seal.
- Suction and discharge \varnothing 2 1/4"

Materials

- Pump body, pump foot, diffuser, impeller and seal mounting in technopolymer.
- Motor shaft stainless steel.
- Mechanical seal in graphite and aluminium.
- Motor housing in aluminium.

Motor

- Built-in thermal overload protection on single phase models.
- Class F insulation.
- IP55 protection.
- Continuous operation.

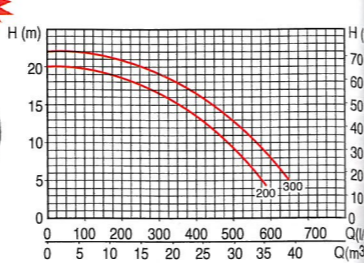
Application

- Specially designed for the recycling and filtering of swimming pool water.

Accessories



Tifon 1



Code	Volts	kW	HP
TIFON1 200	400V	1.5	2
TIFON1 200M	230V	1.5	2
TIFON1 300	400V	2.2	3
TIFON1 300M	230V	2.2	3

Features

- Quiet running single stage pump
- Self priming
- c/w Pre-filter
- Inlet/Outlet size: 2 3/4"

Materials

- Pump body, pump foot, diffuser, impeller and seal mounting in technopolymer
- Motor shaft stainless steel.
- Mechanical seal in graphite and aluminium.
- Motor housing in aluminium.

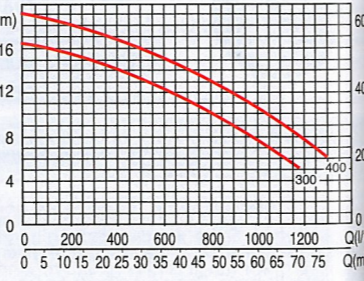
Motor

- IP55 protection
- Continuous rated
- Class F insulation
- Single phase with built in thermal protection

Application

Recycling and filtering of large pools.

Nadorsel



Code	Volts	kW	HP
NADOR 300M	230V	3	4
NADOR 300	400V	3	4
NADOR 400	400V	3.4	4.5

Features

Single impeller centrifugal pump specifically designed for jet-stream currents with flows up to 75m³/h with 2 drainage spouts on hydraulic casing. Adjustable impulsion. Inlet/outlet size: 2 1/2"

Material

- Pump casing and base, diffuser, impeller and seal mounting in techno polymer
- Stainless steel drive shaft (A1S1 420).
- Mechanical seal in graphite and aluminium.

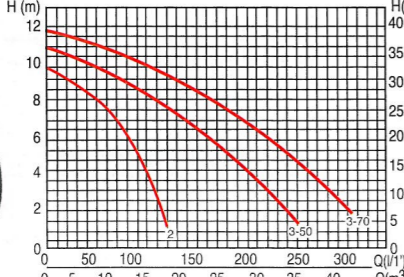
Motor

- IP55 protection
- Continuous rated
- Class F insulation
- Single phase with built in thermal protection

Application

To swim against the current in public or private swimming pools.

Piscis (230V)



Code	Flow Rate	kW	HP
PISCIS2	15-115l/min	0.18	0.25
PISCIS3 50M	20-250l/min	0.37	0.5
PISCIS3 70M	20-300l/min	0.56	0.75

Features

Quiet running single stage centrifugal pumps for the recirculation of water in aquariums and fish hatcheries.

Materials

- Pump body and pump foot in glass loaded polypropylene.
- Impeller in glass loaded noryl.
- Mechanical seal in graphite and steatite.
- Metallic parts in 316 stainless steel.
- Shaft in 316 stainless steel and iron
- Motor housing in aluminium

Motor

- IP55 protection
- Continuous rated
- Class F insulation
- Built in thermal protection

Application

- Specially designed for operation in sea water and to be resistant to fish excrement.

CAST-IRON CENTRIFUGAL PUMPS

PER Single-stage



230V	kW	HP
PER 50M	0.37	0.50
PER 100M	0.75	1.00

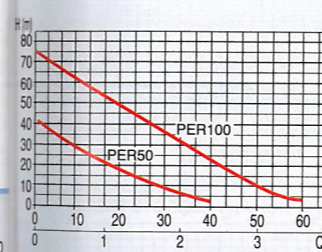
Features

Centrifugal peripheral pumps specially designed to get high performance with low power.

Materials

- Pump body and pump motor support in cast iron.
- Impeller in brass.
- Built-in mechanical seal.
- Motor shaft in stainless steel.
- Metallic fan cover.
- Fan in plastic material.

Inlet/Outlet size: 1"



JET



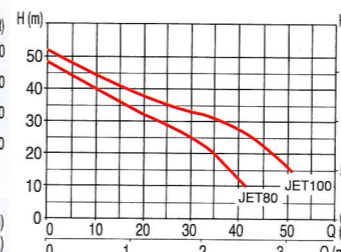
230V	400V	kW	HP
JET 100	0.75	1.00	
JET 100M	0.75	1.00	

Features

Self-priming centrifugal pumps with venturi system. Self-priming up to 9m. Suction and discharge \varnothing : 1" female.

Materials

- Pump body in cast iron.
- Pump motor support in aluminium.
- Impeller in noryl or brass.
- Diffuser and Venturi system in noryl reinforced with fibreglass.
- Built-in mechanical seal.
- Motor shaft in stainless steel.
- Metallic fan cover.
- Fan in plastic material.



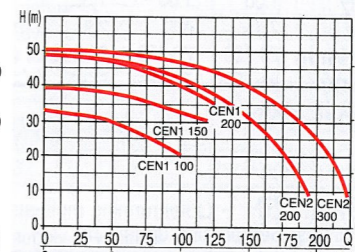
CEN1 & 2 Single-stage



230V	400V	kW	HP
CEN1 100M	0.75	1.0	
CEN1 160M	1.1	1.5	
CEN2 210M	1.5	2	
CEN2 300	2.2	3	

Materials

- Pump body and pump motor support in cast iron.
- Shaft in stainless steel.
- Impeller in noryl reinforced with fibreglass for CEN1 and CEN2 pumps.
- Brass impeller available on request.
- Built-in mechanical seal.
- Metallic fan cover.
- Fan in plastic material.



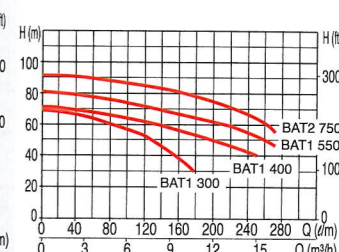
BAT1 Twin impeller



400V	kW	HP
BAT1 310	2.2	3
BAT1 400	3	4
BAT1 550	4	5.5
BAT2 750	5.5	7.5

Materials

- Pump body and pump motor support in cast iron.
- Motor shaft in stainless steel.
- Twin impellers in brass alloy.
- Built-in mechanical seal.
- Metallic fan cover.
- Fan in plastic material.



NOR1



230V	400V	kW	HP
NOR1 200M	NOR1 200	1.5	2
NOR1 300M	NOR1 300	2.2	3

Features

Centrifugal pumps that combine medium head with medium high delivery. Quiet operation.

Materials

- Pump body and pump motor support in cast iron.
- Motor shaft in stainless steel.
- Impeller in brass alloy.
- Built-in mechanical seal.
- Metallic fan cover.
- Fan in plastic material.

Inlet/Outlet size: 2"

NOR2



230V	400V	kW	HP
NOR2 350M	NOR2 350	2.2	3
NOR2 400M	NOR2 400	3	4
NOR2 550	NOR2 550	4	5

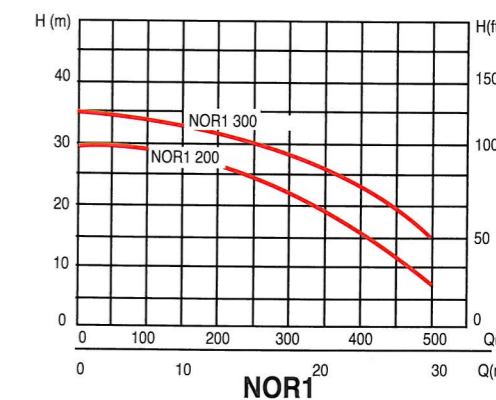
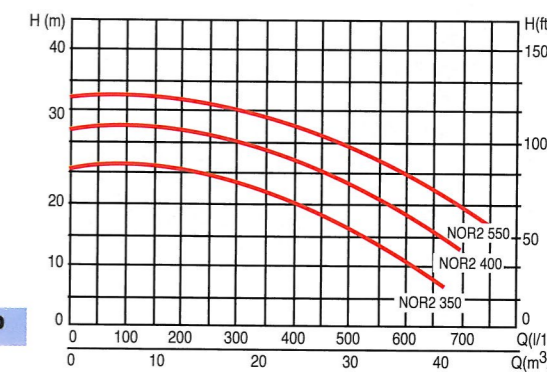
Features

For applications requiring high flows at low or medium pressure.

Materials

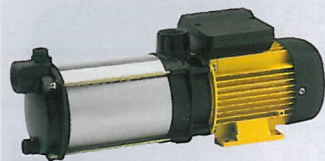
- Pump body and pump motor support in cast iron.
- Motor shaft in stainless steel.
- Impeller in cast iron.
- Built-in mechanical seal.
- Metallic fan cover.
- Fan in plastic material.

Inlet: 3" Outlet size: 2"



MULTI-STAGE BOOSTER PUMPS

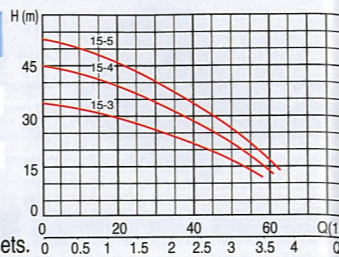
ASPRI 15 - Quiet running multi-stage centrifugal pumps. Built-in selfpriming valve, not very sensitive to the impurities. Self-priming up to 9 m.



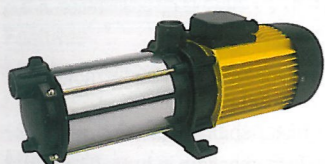
Code	ASPRI 15-3M	ASPRI 15-3	ASPRI 15-4M	ASPRI 15-4	ASPRI 15-5M	ASPRI 15-5
kW	0.37	0.37	0.55	0.55	0.75	0.75
HP	0.50	0.50	0.75	0.75	1.00	1.00
V	230	400	230	400	230	400
Q-l/min	5-50	5-50	5-50	5-50	5-60	5-60
H(m)	33-17m	33-17m	44-21.5m	44-21.5m	53-17m	53-17m

Application:

To work with clean water in domestic applications, irrigation, and hydropneumatic sets.



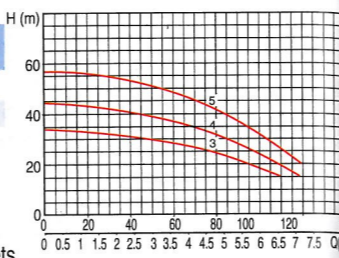
ASPRI 25 - Quiet running multi-stage centrifugal pumps. Built-in selfpriming valve, not very sensitive to the impurities. Self-priming up to 9 m.



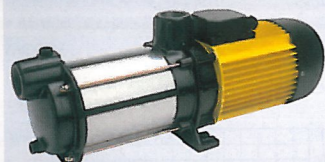
Code	ASPRI 25-3M	ASPRI 25-4M	ASPRI 25-4	ASPRI 25-5M	ASPRI 25-5
kW	0.75	0.92	0.92	1.12	1.12
HP	0.56	1.25	1.25	1.50	1.50
V	230	230	400	230	400
Q-l/min	15-105	15-120	15-120	15-120	15-120
H(m)	33-17m	43-14.5m	43-14.5m	56-20m	56-20m

Application:

To work with clean water in domestic applications, irrigation, and hydropneumatic sets.



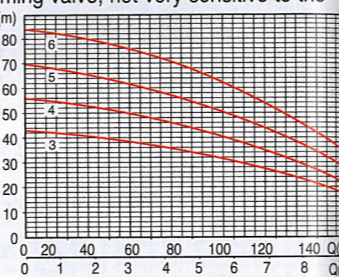
ASPRI 35N - Quiet running multi-stage centrifugal pumps. Built-in selfpriming valve, not very sensitive to the impurities. Self-priming up to 9 m.



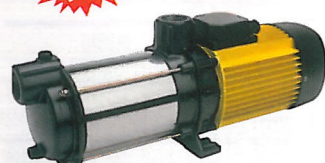
Code	ASPRI 35-3MN	ASPRI 35-3N	ASPRI 35-4MN	ASPRI 35-4N	ASPRI 35-5MN	ASPRI 35-5N	ASPRI 35-6N
kW	0.75	0.75	1.12	1.12	1.50	1.50	2.20
HP	1.00	1.00	1.50	1.50	2.00	2.00	3.00
V	230	400	230	400	230	400	400
Q-l/min	20-150	20-150	20-150	20-150	20-150	20-150	20-150
H(m)	41-18m	41-18m	54-23	54-23m	68-30m	68-30m	81-37m

Application:

To work with clean water in domestic and industrial applications, irrigation, and hydropneumatic sets.



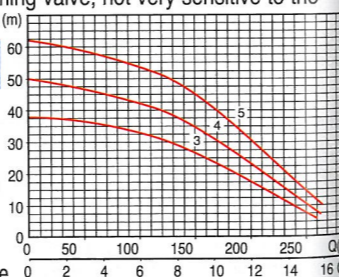
ASPRI 45N - Quiet running multi-stage centrifugal pumps. Built-in selfpriming valve, not very sensitive to the impurities. Self-priming up to 9 m.



Code	ASPRI 45-3MN	ASPRI 45-3N	ASPRI 45-4MN	ASPRI 45-4N	ASPRI 45-5N
kW	1.12	1.12	1.50	1.50	2.20
HP	1.50	1.50	2.00	2.00	3.00
V	230	400	230	400	400
Q-l/min	25-250	25-250	25-250	25-250	25-250
H(m)	37-8m	37-8m	48-11m	48-11m	61-15m

Application:

To work with clean water in domestic and industrial applications, irrigation, and pressure sets.



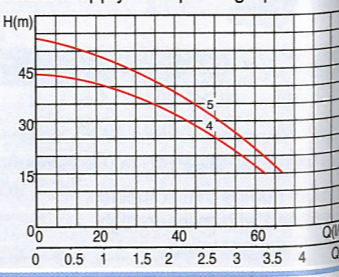
TECNOPRES 15 - Quiet running horizontal multi-stage centrifugal pumps, with selfpriming valve resistant to impurities, dry run protection and device to ensure pressure water supply. Self-priming up to 9 m.



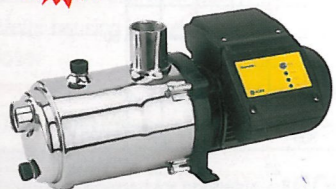
Code	TECNOPRES 15/4M	TECNOPRES 15/5M
kW	0.55	0.75
HP	0.75	1.00
V	230	230
Q-l/min	5-50	5-60
H(m)	44-21.5m	53-17m

Application:

To supply water at pressure in domestic applications. With protection to prevent the pump from operation when dry.



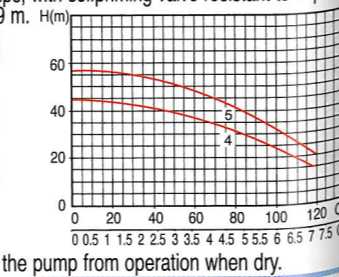
TECNOPRES 25 - Quiet running horizontal multi-stage centrifugal pumps, with selfpriming valve resistant to impurities, dry run protection and device to ensure pressure water supply. Self-priming up to 9 m.



Code	TECNOPRES 25/4M	TECNOPRES 25/5M
kW	0.92	1.12
HP	1.25	1.50
V	230	230
Q-l/min	15-120	15-120
H(m)	43-14.5m	46-20m

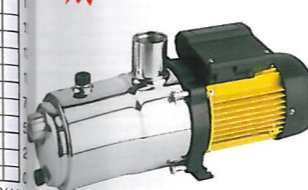
Application:

To supply water at pressure in domestic applications. With protection to prevent the pump from operation when dry.



MULTI-STAGE BOOSTER PUMPS

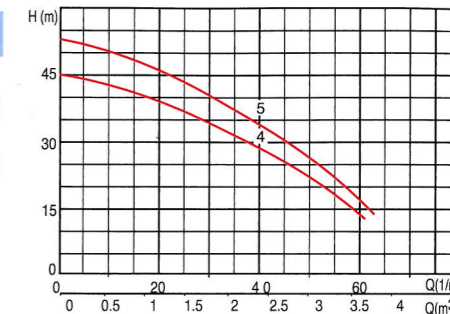
TECNOSELF 15 - Quiet running horizontal multistage centrifugal pumps, with self-priming valve resistant to impurities. Self-priming up to 9 m.



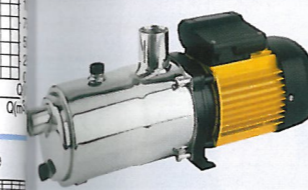
Code	TECNOSELF 15/4M	TECNOSELF 15/4	TECNOSELF 15/5M	TECNOSELF 15/5
kW	0.55	0.55	0.75	0.75
HP	0.75	0.75	1.00	1.00
V	230	400	230	400
Q-l/min	5-50	5-50	5-60	5-60
H(m)	44-21.5m	44-21.5m	53-17m	53-17m

Application:

To work with clean water in domestic applications, irrigation, and pressure sets.



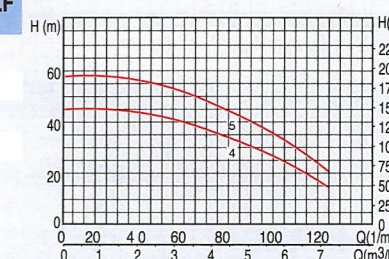
TECNOSELF 25 - Quiet running horizontal multistage centrifugal pumps, with self-priming valve resistant to impurities. Self-priming up to 9 m.



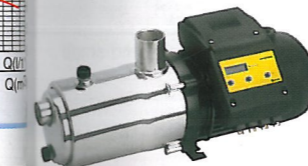
Code	TECNOSELF 25/3M	TECNOSELF 25/4M	TECNOSELF 25/4	TECNOSELF 25/5M	TECNOSELF 25/5
kW	0.75	0.92	0.92	1.12	1.12
HP	1.00	1.25	1.25	1.50	1.50
V	230	230	400	230	400
Q-l/min	15-105	15-120	15-120	15-120	15-120
H(m)	33-17m	43-14.5m	43-14.5m	56-20m	56-20m

Application:

To work with clean water in domestic applications, irrigation, and pressure sets.



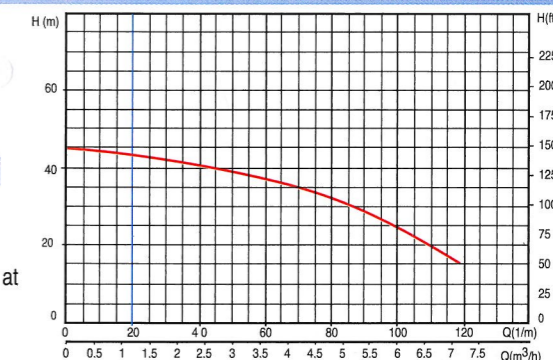
TECNOTIMER 25 - Quiet running horizontal multi-stage centrifugal pumps. Self-priming valve resistant to impurities, dry run protection and non-return valve to guarantee the pump's priming. Self-priming up to 9 m. C/w programmer for 4 sprinkler programs with 4 independent weekly programs.



Code	kW	HP	V	Q-l/min	H(m)
TECNOTIMER 25/4M	0.92	1.25	230	15-120	43-14.5m

Application:

Programmed sprinklers irrigation per areas and supply of water at pressure.



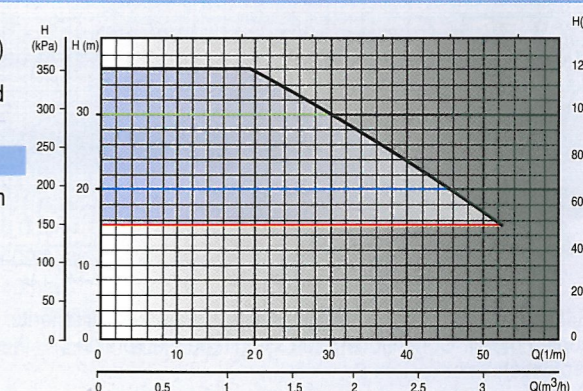
TECNOPLUS - Horizontal multistage centrifugal pump with electronic regulation ESD (Espa Speed Driver) and speed control with pressure sensor included; built in with dry running protection. No maintenance required and without water hammer in the installation.



Code	kW	HP	V	Q-l/min	H(m)
TECNOPLUS M	0.55	0.75	230	10-50	35-15m

Application:

Compact unit with constant pressure for domestic applications without fluctuations. Easy to install. Plug & pump design.



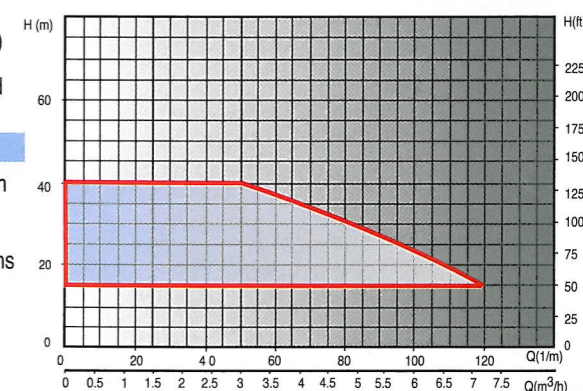
TECNOPLUS 25 - Horizontal multistage centrifugal pump with electronic regulation ESD (Espa Speed Driver) and speed control with pressure sensor included; built in with dry running protection. No maintenance required and without water hammer in the installation.



Code	kW	HP	V	Q-l/min	H(m)
TECNOPLUS 25/4M	0.92	1.25	230	45-120	40-15m

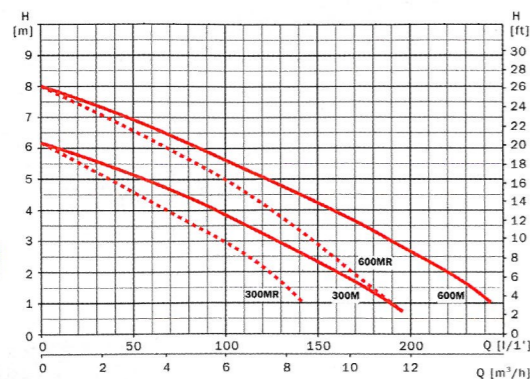
Application:

Compact unit with constant pressure for domestic applications without fluctuations with resulting energy saving. Easy to install. Plug & pump design.



PUMPS

VIGILEX 300/600



Submersible pumps, vortex system for dirty water. Continuous rated. Built-in thermal protection.

Code	VIGILEX 300MA	VIGILEX 600MA
With Float Switch	Yes	Yes
kW	0.50	0.60
HP	0.67	0.80
Supply Voltage	230V	230V
Water	Dirty Water	Dirty Water
Q-l/min	25-190	25-240
H(m)	5.7-1m	7.5-1m

Application:

Drainage of sewage and dirty water, in domestic installations, operation in septic tanks and small purifying installations.

Outlet Size: 30mm

DRAINCOR 180/200



Submersible grinder pumps, for sewage water with filaments. Water cooled motor. Continuous rated. Single phase version c/w thermal protection.

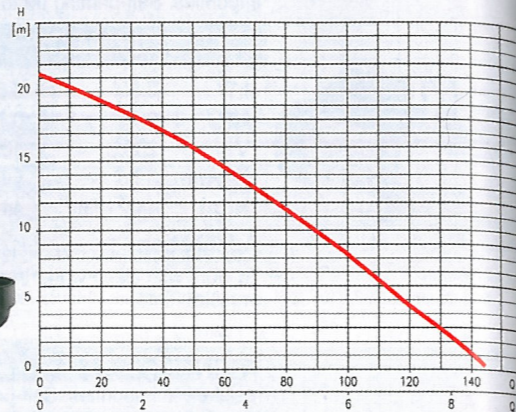
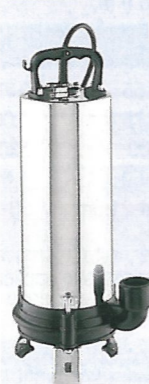
Code	DRAINCOR 180MA	DRAINCOR 200
With Float Switch	Yes	No
kW	1.12	1.25
HP	1.50	1.70
Supply Voltage	230V	400V
Water	Dirty Water	Dirty Water
Q-l/min	25-175	21-290
H(m)	18-7m	21-2.5m

Application:

Drainage of sewage and dirty water, operation in septic tanks and small purifying installations.

Outlet Size: 40mm

VIGICOR 150



Submersible grinder pumps for sewage water, with filaments. Continuous rated. Built-in thermal protection.

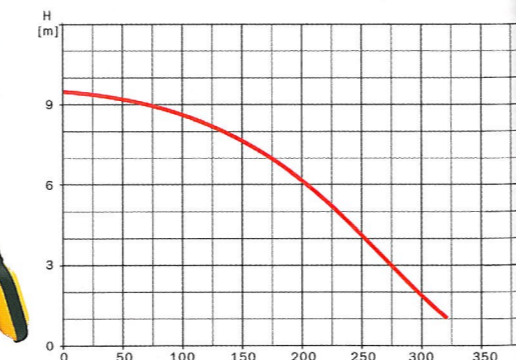
Code	VIGICOR 150MA
With Float Switch	Yes
kW	0.9
HP	1.2
Supply Voltage	230V
Water	Dirty Water
Q-l/min	10-140
H(m)	20.2 - 1.2m

Application:

Drainage of sewage and dirty water, operation in septic tanks and small purifying installations.

Outlet Size: 1 1/4"

DRAIN 100



Submersible pumps for the drainage of water without solids in suspension. Continuous rated with built-in thermal protection.

Code	DRAIN 100M	DRAIN 100MA
With Float Switch	No	Yes
kW	0.75	0.75
HP	1.00	1.00
Supply Voltage	230V	230V
Water	Clean Water	Clean Water
Q-l/min	25-320	25-320
H(m)	9.2-1m	9.2-1m

Application:

Drainage of infiltration water, empty swimming-pools, decorative fountains and waterfalls

Outlet Size: 1 1/4"

PUMPS

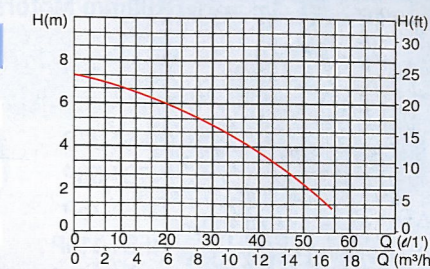
DRAINEX 100



Code	DRAINEX 100M	DRAINEX 100MA
kW	0.75	0.75
HP	1.00	1.00
V	230	230
Max Solid	32mm	32mm
Q-l/min	25-280	25-281
H(m)	7-1m	7-1m

Application

Drainage of sewage and dirty water, operation in septic tanks and small purifying installations



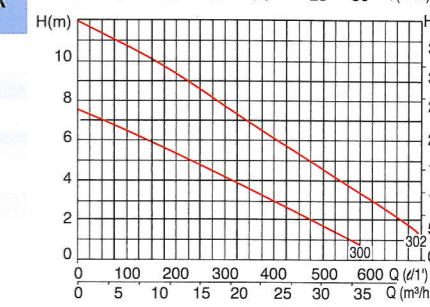
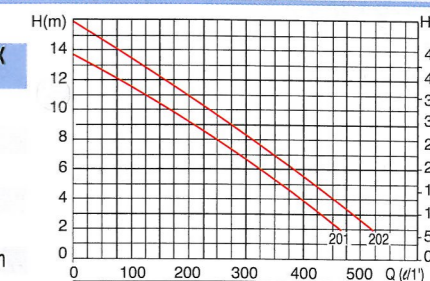
DRAINEX 200/ 300 Vortex Pump for Sewage Water

Code	DRAINEX 201M	DRAINEX 201MA	DRAINEX 201	DRAINEX 202M	DRAINEX 202MA	DRAINEX 202
kW	1.12	1.12	1.12	1.12	1.12	1.12
HP	1.50	1.50	1.50	1.50	1.50	1.50
V	230V	230V	400V	230V	230V	400V
Max Solid	45mm	45mm	45mm	45mm	45mm	45mm
Q-l/min	50-500	50-500	50-500	50-500	50-500	50-500
H(m)	12.5-2.0m	12.5-2.0m	12.5-2.0m	14.5-2.5m	14.5-2.5m	14.5-2.5m

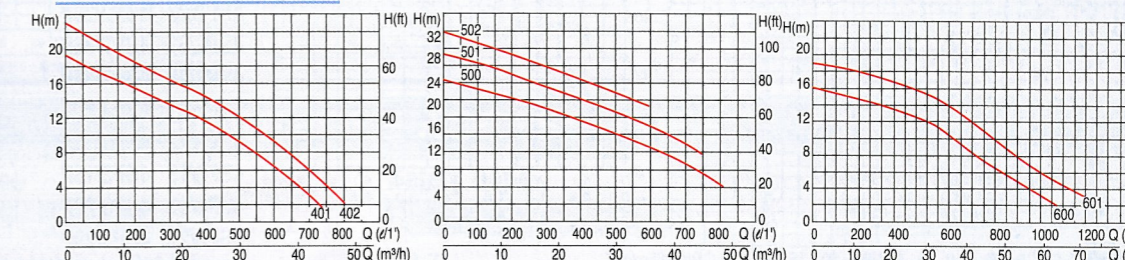
Code	DRAINEX 300M	DRAINEX 300MA	DRAINEX 300	DRAINEX 302M	DRAINEX 302MA	DRAINEX 302
kW	1.12	1.12	1.12	1.12	1.12	1.12
HP	1.50	1.50	1.50	1.50	1.50	1.50
V	230V	230V	400V	230V	230V	400V
Max Solid	60mm	60mm	60mm	60mm	60mm	60mm
Q-l/min	50-500	50-500	50-500	50-500	50-500	50-500
H(m)	7.1-1.8m	7.1-1.8m	7.1-1.8m	11-1.8m	11-1.8m	11-1.8m

Application

Drainage of sewage and dirty water, operation in septic tanks and small purifying installations



DRAINEX 400/500/600



Code	DRAINEX 401	DRAINEX 402	DRAINEX 500	DRAINEX 501	DRAINEX 502	DRAINEX 600	DRAINEX 601
kW	2.60	2.60	3.70	3.70	3.70	3.70	3.70
HP	3.50	3.50	5.00	5.00	5.00	5.00	5.00
V	400V	400V	400V	400V	400V	400V	400V
Max Solid	40mm	40mm	40mm	40mm	40mm	65mm	65mm
Q-l/min	100-700	100-800	100-810	100-750	100-600	200-1000	200-1200
H(m)	17.3-3m	20.7-2m	23.2-6m	27.4-12m	30.1-20m	14.8-3.4m	18-3.1m

Description

Submersible mono block pumps with Vortex impeller for draining water with solids.

Perfect for draining water with solids and grey water, for working in septic tanks, water treatment facilities and apartment blocks.

The Atex version for installing in facilities with potentially explosive atmospheres. (Atex classification II 2G-Eex d II B T4).

Duckfoot & Elbow kits for small and large dewatering (see section on accessories)



KITDR4	Duck foot 65mm for DRAINEX 600 incl chain, rawl bolts, screws, nuts & washers
KITDR6	Elbow 50mm for DRAINEX 400/500 incl chain, screws, nuts, washers and feet
KITDR7	Elbow 65mm for DRAINEX 600 incl chain, screws, nuts & washers and feet

Pumped liquids

Water with solids or filtered water, rainwater, infiltrations, wastewater and non-corrosive liquids in general.

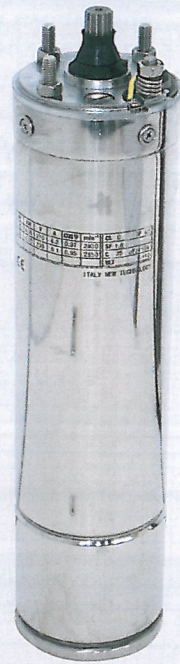
Accessories

- Control panel with controls for one or two pumps.
- Atex metal or Standard plastic versions.
- Transportable kit with elbow and stainless steel foot and automatic anchoring kit for DRAINEX 400, 500 and 600.
- KITDR3 and KITDR6 for DRAINEX 400 and 500.
- KITDR4 and KITDR7 for DRAINEX 600.

KITDR1	Duck foot 50mm for DRAINEX 200 incl chain, rawl bolts, screws, nuts & washers
KITDR2	Duck foot 65mm for DRAINEX 300 incl chain, rawl bolts, screws, nuts & washers
KITDR3	Duck foot 50mm for DRAINEX 400/500 incl chain, rawl bolts, screws, & washer

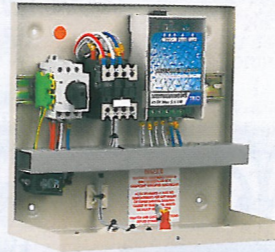
STAINLESS STEEL BOREHOLE MOTORS

100mm Motors with Lead Out Cable (open end) (All 230V Motors are not supplied with standard control box)



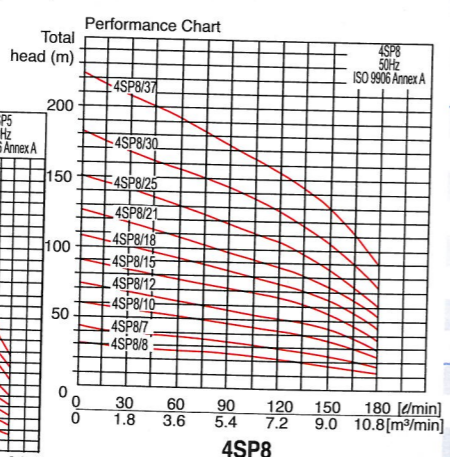
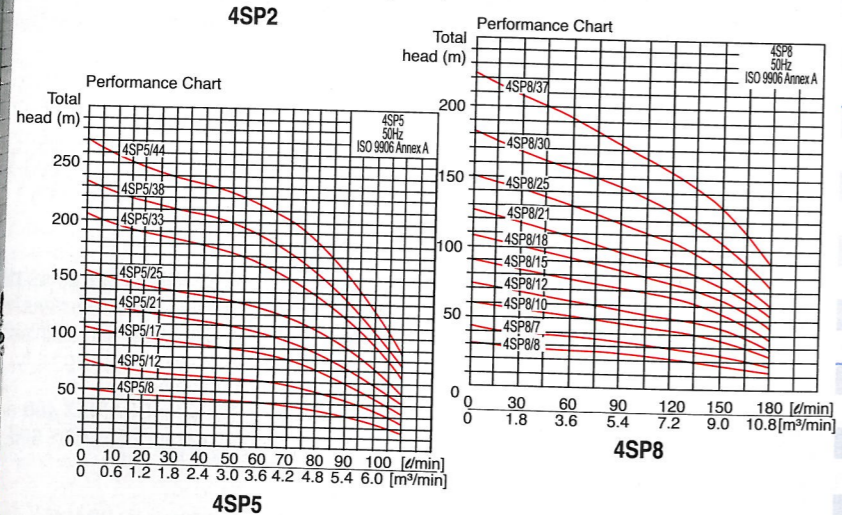
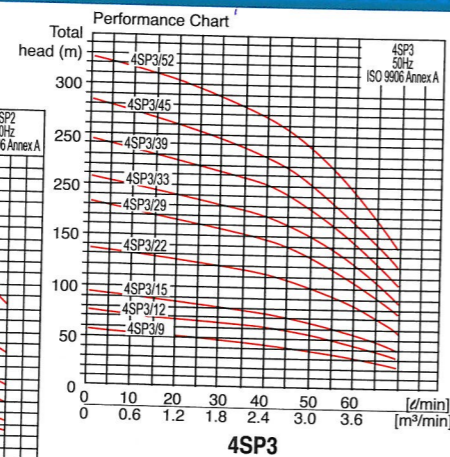
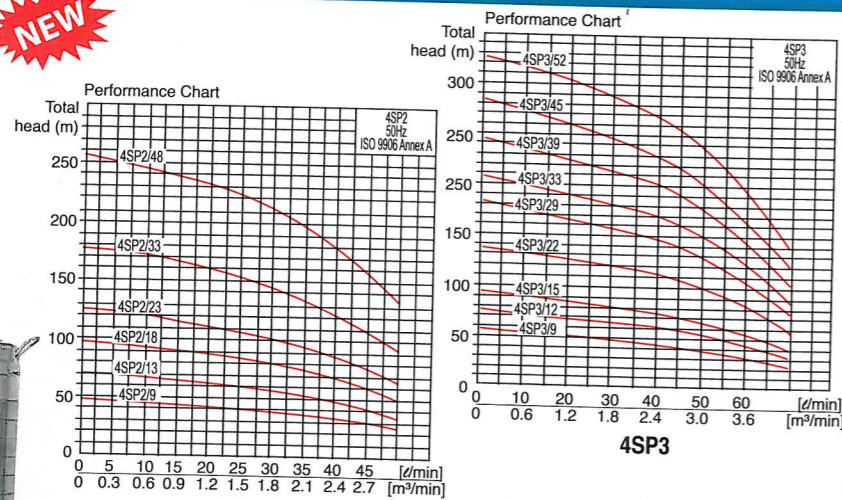
Code	kW	HP	Volts	Length (mm)	Full Load Amps	Code Spare 230V Control Box
NFS4-37P	0.37	0.50	230V	296	3.9	NF0.37
NFS4-56P	0.55	0.75	230V	326	5.0	NF0.56
NFS4-75P	0.75	1	230V	346	6.0	NF0.75
NFS4-110P	1.1	1.5	230V	391	8.8	NF1.1
NFS4-150P	1.5	2.0	230V	436	11.8	NF1.5
NFS4-220P	2.2	3	230V	456	17.0	NF2.2
NFS4-37V	0.37	0.50	400V	346	1.16	
NFS4-56V	0.55	0.75	400V	346	1.7	
NFS4-75V	0.75	1	400V	346	2.2	
NFS4-110V	1.1	1.5	400V	391	3.0	
NFS4-150V	1.5	2.0	400V	436	3.9	
NFS4-220V	2.2	3	400V	456	5.9	
NFS4-300V	3	4	400V	582	7.2	
NFS4-400V	4	5.5	400V	652	9.3	
NFS4-550V	5.5	7.5	400V	785	13	
NFS4-750V	7.5	10	400V	920	17	

For full range of 400V Control Panels see page 40



STAINLESS STEEL 4" BOREHOLE PUMPS

NEW



Complete Stainless Steel construction, Impeller and Strainer

Pump Only	230V Pump & Motor	400V Pump & Motor	kW	HP
4SP2/9	4SP2/9P	—	0.37	0.50
4SP2/13	4SP2/13P	4SP2/13V	0.55	0.75
4SP2/18	4SP2/18P	4SP2/18V	0.75	1.0
4SP2/23	4SP2/23P	4SP2/23V	1.1	1.5
4SP2/33	4SP2/33P	4SP2/33V	1.5	2.0
4SP2/48	4SP2/48P	4SP2/48V	2.2	3.0
4SP3/9	4SP3/9P	4SP3/9V	0.55	0.75
4SP3/12	4SP3/12P	4SP3/12V	0.75	1.0
4SP3/15	4SP3/15P	4SP3/15V	1.1	1.5
4SP3/22	4SP3/22P	4SP3/22V	1.5	2.0
4SP3/29	4SP3/29P	4SP3/29V	2.2	3.0
4SP3/33	4SP3/33P	4SP3/33V	2.2	3.0
4SP3/39	—	4SP3/39V	3.0	4.0
4SP3/45	—	4SP3/45V	3.0	4.0
4SP3/52	—	4SP3/52V	4.0	5.5
4SP5/8	4SP5/8P	4SP5/8V	0.75	1.0
4SP5/12	4SP5/12P	4SP5/12V	1.1	1.5
4SP5/17	4SP5/17P	4SP5/17V	1.5	2.0
4SP5/21	4SP5/21P	4SP5/21V	2.2	3.0
4SP5/25	4SP5/25P	4SP5/25V	2.2	3.0
4SP5/33	—	4SP5/33V	3.0	4.0
4SP5/38	—	4SP5/38V	4.0	5.5
4SP5/44	—	4SP5/44V	4.0	5.5
4SP8/5	4SP8/5P	4SP8/5V	0.75	1.0
4SP8/7	4SP8/7P	4SP8/7V	1.1	1.5
4SP8/10	4SP8/10P	4SP8/10V	1.5	2.0
4SP8/12	4SP8/12P	4SP8/12V	2.2	3.0
4SP8/15	4SP8/15P	4SP8/15V	2.2	3.0
4SP8/18	—	4SP8/18V	3.0	4.0
4SP8/21	—	4SP8/21V	4.0	5.5
4SP8/25	—	4SP8/25V	4.0	5.5
4SP8/30	—	4SP8/30V	5.5	7.5
4SP8/37	—	4SP8/37V	5.5	7.5

- 230V Pump complete with Motor, lead out cable, Control Box
- 400V Pump complete with Motor, lead out cable
- Non-Return valve incorporated in pump delivery body
- Outlet size: 1" for 4SP2 & 4SP3 range; 1.5" for 4SP5 range; 2" for 4SP8 range

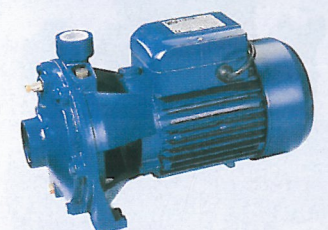
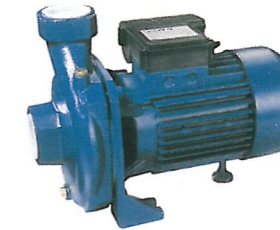
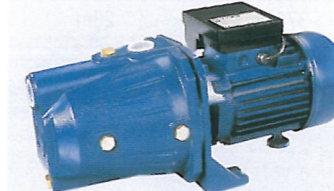
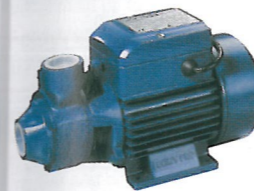
CAST-IRON CENTRIFUGAL PUMPS IP44

MKP Single-stage

MJ JET

MSC Single-stage

2MC25 Twin impeller



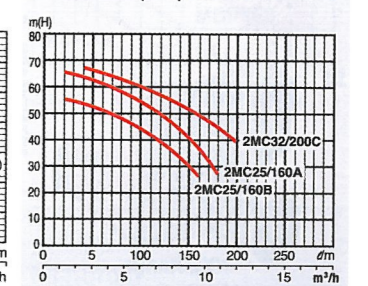
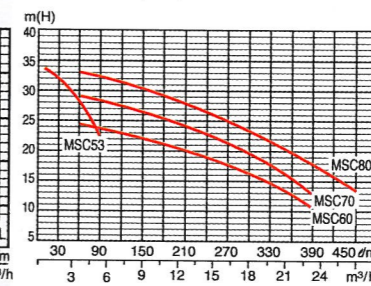
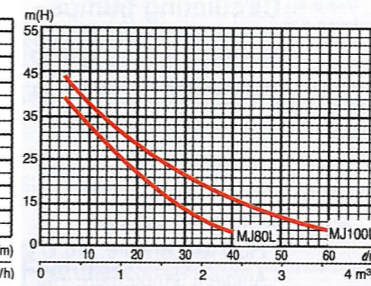
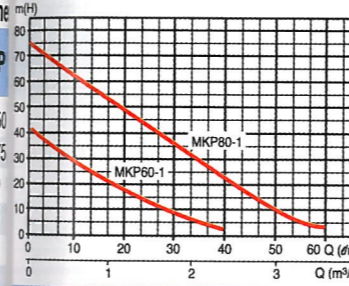
230V	kW	HP	230V	400V	kW	HP	230V	400V Inlet/Outlet	kW	HP	400V	Inlet	Outlet	kW	HP	
MKP60-1	0.37	0.50	MJ80L	—	0.60	0.80	MSC53	—	1"	0.75	1.0	2MC25/160B	1 1/4"	1	1.5	2
MKP80-1	0.75	1.00	MJ100L	M100L	0.75	1.00	MSC60 MS60	2"	1.1	1.5	2MC25/160A	1 1/2"	1	2.2	3	
							MSC70 MS70	2"	1.5	2	2MC32/200C	1 1/2"	1.25	3	4	
							— MS80	2"	2.2	3						

1" Inlet/Outlet

1" Inlet/Outlet

Description

- Cast Iron pump body
- Hi-cr plated steel shaft
- Stainless Steel mechanical seal
- Brass impeller
- Fluid Temp. up to 60°C
- Self priming up to 8m
- Cast Iron pump body
- Stainless Steel mechanical seal
- Brass impeller
- Hi-cr plated steel shaft
- Fluid Temp. up to 40°C
- Cast Iron pump body
- Stainless Steel mechanical seal and shaft
- Brass impeller
- Fluid Temp. up to 60°C
- Cast Iron pump body
- Stainless Steel shaft and mechanical seal
- Brass impellers
- Fluid Temp. up to 60°C

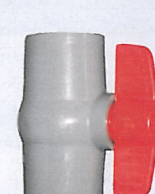


BOREHOLE ACCESSORIES

Base Plates

Description	Code
32mm Pressed Metal	P115-B
40mm Pressed Metal	P116
50mm Pressed Metal	P117

NEW



Safety Rope

Code (per metre)	Size
SR-7	7mm ²
SR-10	10mm ²
SR-12	12mm ²

4-Core Submersible Cable

Code (per metre)	Size
A430	2-5mm ²
A431	4mm ²
A432	6mm ²
A433	10mm ²
A434	16mm ²

Size	Gate Valves	Non-Return Valve with Filter	Non-Return Valve	Full Way Ballcock Valve	PVC Valves
15mm	GV001	NRV01F	NRV01	FB001	HV001
20mm	GV002	NRV02F	NRV02	FB002	HV002
25mm	GV003	NRV03F	NRV03	FB003	HV003
32mm	GV004	NRV04F	NRV04	FB004	HV004
40mm	GV005	NRV05F	NRV05	FB005	HV005
50mm	GV006	NRV06F	NRV06	FB006	HV006

VANE OIL PUMPS

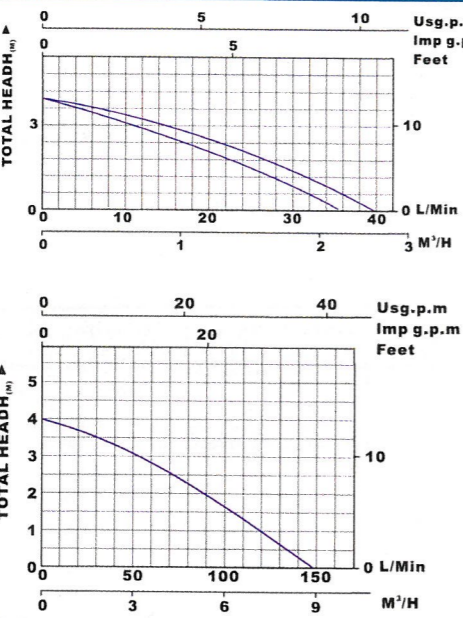


Vane Oil Pump 230VAC			
Code	Power	Head Max	Flow Rate Max
MVP-370	370W	26m	2.6m³/h

Low Voltage Vane Oil Pumps 12/24VDC			
Code	Power	Head Max	Flow Rate Max
MVO-400A	400W	3m	2.4m³/h

Accessories			
Code	Inlet	Outlet	Description
AN15A	1"	1"	Nozzle
MN12A	1"	13/16"	Nozzle
LC1	1"	1"	Litre counter (accuracy ± 2%)
UR-750	1"	1"	Hose for use with pumps (length: 5m)
UR-100	1"	1"	1" Coupling
UR-257	1"	1"	3/4" Coupling
UR-375	1"	1"	Foot Valve
UR-400	-	-	Hose Clamp

CIRCULATING PUMPS



Circulating pumps - 230VAC			
Code	Head Max	Flow rate	In/ outlet
NXL13-25P	4m	35ℓ/min	1"
NXL33-32P	4m	40ℓ/min	1.25"
CXZN70-40	4m	150ℓ/min	DN40 Flange

Operating Limits:

- Fluid temperature: -10°C to 110°C
- Ambient temperature +40°C
- Maximum working pressure 1mPa

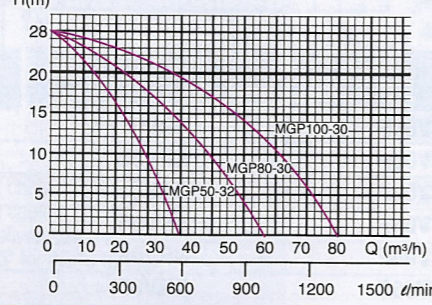
Structural Characteristics:

- Non-overloading
- Manual 3 speed control
- Cast-iron pump body
- Plastic impeller
- Ceramic shaft
- Ceramic bearing

PETROL ENGINE WATERPUMPS



Code	Power	Inlet/Outlet	Head Max.	Flow Rate Max.
MGP50-32	5.5 HP	2" x 2"	28m	28m³/h
MGP80-30	5.5 HP	3" x 3"	28m	58m³/h
MGP100-30	5.5 HP	4" x 4"	28m	80m³/h



Operating Limits:

- Maximum working pressure 4 bar
- Suction lift 8m
- Fluid temperature up to 40°C
- Continuous duty

MGP centrifugal hand-carry motor pumps are particularly suitable to supply and distribute clean water for agricultural and gardening purposes when electrical connection is not possible

POOL & SPA PUMPS

Swimming Pool Pumps

Quiet running single-stage centrifugal pump, self-priming up to 4m.

Features:

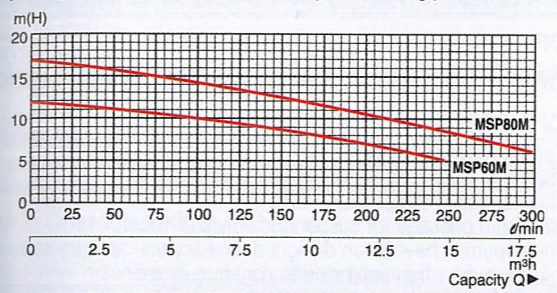
- Complete with pre-filter and clear cover.
- Mechanical seal.
- Suction and discharge Ø 2 1/4".
- Pump body, filter and motor mounting in polypropylene, shaft in stainless steel, impeller and diffuser in Noryl.

Motor:

- Built-in thermal overload protection.
- Windings impregnated with epoxy resin applied by electrophoresis at 220 °C.
- Class B insulation.
- IP 55 protection.
- Continuous operation.

Applications:

- Specially designed for the recycling and filtering of swimming pool water.



Code	Supply	kW	HP
MSP60M	230V	0.45kW	0.70HP
MSP80M	230V	0.75kW	1.0HP
MSP BASKET	Spare Basket		
MSP COVER	Spare Cover		
MSP UNION	Spare 40mm union		



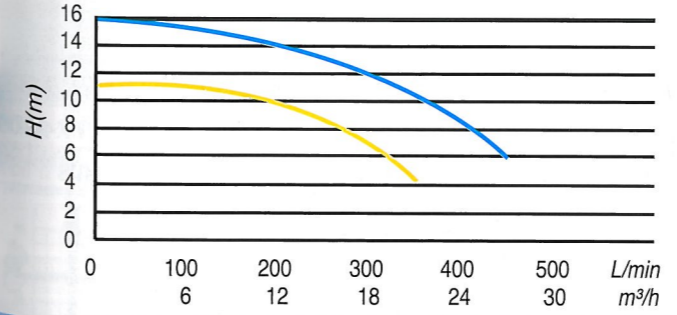
MSP-G Pool Pumps



Features:

These pumps have been designed to incorporate features that will provide reliable, efficient pump operation and provide maximum performance and corrosion resistance at a realistic cost. Ideal for small to medium domestic swimming pools.

MSP-1100G
MSP-1600G



Code	kW	HP	Head max	Flow Rate Max
MSP-1100G	1.1kW	1.5HP	11 metre	22m³/h
MSP-1600G	1.6kW	2HP	16 metre	27m³/h

Operating limits:

- Self priming up to 8m
- Maximum fluid temperature 35°C
- Maximum ambient temperature 40°C
- Maximum passage for suspended solids Ø 5mm
- Outlet and inlet Ø 2.5"

Pool/SPA Pumps - Supply Voltage 230VAC

Code	kW
MSP350	0.35kW
MSP450	0.45kW
MSP COUPLING	Spare 40mm Union Coupling

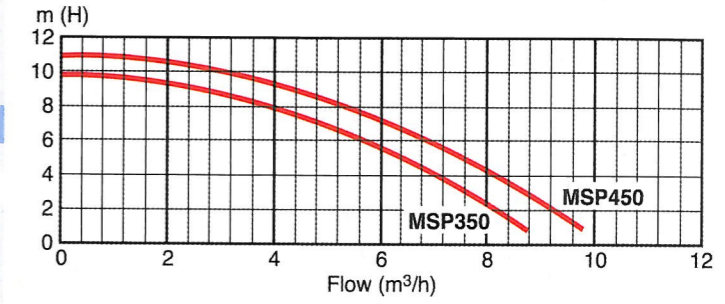


Features:

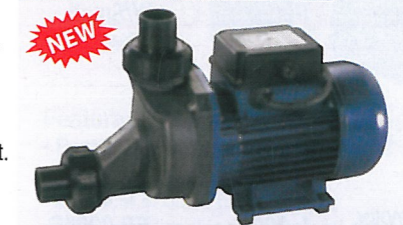
- Complete with pre-filter and clear cover.
- Mechanical seal.
- Suction and discharge Ø 1.5" (40mm).
- Pump body, filter and motor mounting in polypropylene, shaft in carbon steel, impeller and diffuser in Noryl.

Motor:

- Built-in thermal overload protection.



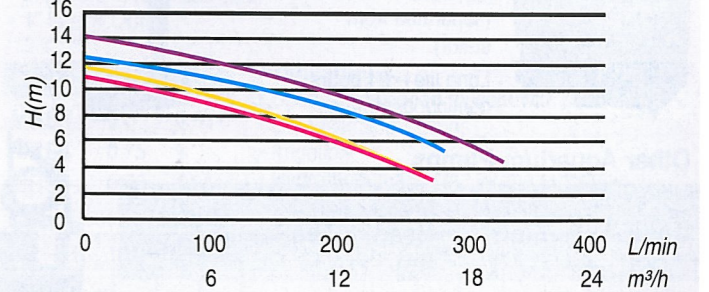
Whirlpool Bathtub Pumps



Features:

- A Bi-energetic system or flow control valve can be connected
- Adjustable pump stand for quick installation
- Motor is thermal protected and has a double fan

WB370 WB750
WB550 WB1100



Code	Power	Head max	Flow Rate Max
WB370	370W	11 metre	16m³/h
WB550	550W	12 metre	16m³/h
WB750	750W	12.5 metre	17m³/h
WB1100	1100W	14 metre	19m³/h

Operating limits:

- Self priming up to 8m
- Maximum passage of suspended solids Ø 3mm
- Inlet & outlet 40mm Ø

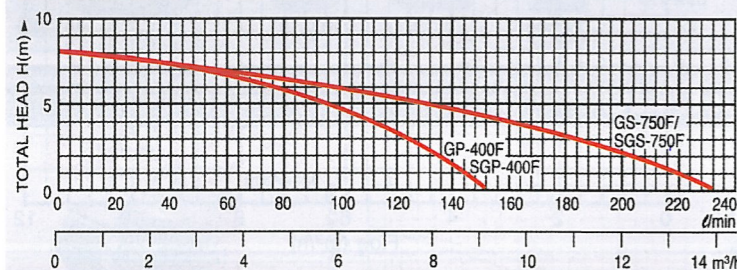
PUMPS

Submersible Garden Pumps



230V With Float	230V No Float	Watts	Max Flow	Max Head
GP-400F	GP-400	400	9m ³ /H	7m
SGP-400F	-	400	9m ³ /H	7m
GS-750F	-	750	13.5m ³ /H	8m
SGS-750F	-	750	14m ³ /H	8m

PERFORMANCE CHART AT n = 2900 rpm



• Max. Liquid Temp: 35°C

Aquarium Pumps 230VAC

Code	Max Flow (L/H)	Watts	Outlet Dia (mm)
FB-450	450	8	13
FB-650	650	10	13
FB-2100	1800	20	15

• Full compact Non-leakage oil-less motor. Fully epoxy encapsulation pump.



• Rotor/shaft in water lubrication (separated from stator).
• Long life – 24 hours continuous running

Fountain and Multi-Purpose Pumps 230VAC

Code	Max Flow (L/H)	Watts	Outlet Dia (mm)	Pump Only	W/Small Filter	W/Fountain Kit and L/Filter	Max Flow (L/Hour)	Max Head (m)	Watts
FB-450	450	8	13	L-250	-	-	200	0.7	6
FB-650	650	10	13	L-450	-	FK-450	360	0.8	8
FB-2100	1800	20	15	L-650	FB-650S	FK-650	520	0.9	10
				L-2500	FB-2500S	FK-2500	1600	1.9	20
				L-3200	FB-3200S	FK-3200	2400	2.3	45
						FK-3200L	2400	2.3	45
						FK-001 Spare Fountain Kit			



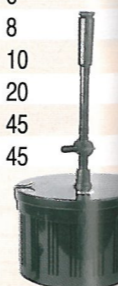
FK-650



L-250



FK-001



FK-3200L

Other Aquarium Pumps

Code	Max Flow (L/H)	Max Head (m)	Watts	Outlet Dia (mm)
L-450BS	360	0.8	8	13
L-650BS	520	0.9	10	13



Circulation Water Pumps with Filter

Code	Max Flow L/H	Max Head (mm)	Power
FK-120SC	4200	6.2	1/6 HP
FK-180SC	6600	7.5	1/5 HP
FKD-FILTER	Spare Replacement Filter		



Fountain/Pond Pumps with filter & LED colour Lights IP68

• Max. flow 2400 L/H. • 45 Watts
• Max. head 2.3 metres

Colour	Code Small Filter	Code Large Filter
● ●	FKD-3200R/R	GPD-3200R/R
● ●	FKD-3200R/Y	GPD-3200R/Y
● ●	FKD-3200R/B	GPD-3200R/B
● ●	FKD-3200R/G	GPD-3200R/G
● ●	FKD-3200Y/B	GPD-3200Y/B
● ●	FKD-3200Y/G	GPD-3200Y/G
● ●	FKD-3200Y/Y	GPD-3200Y/Y
● ●	FKD-3200B/B	-
	Spare Filter	FKD-FILTER GPD-FILTER



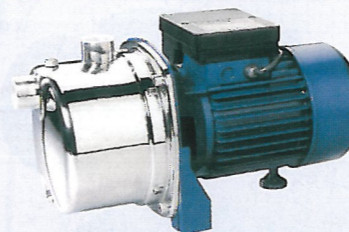
FKD-3200



GPD-3200

PUMPS

Booster Pumps



Code 230V	Code 400V	kW	HP
MJS-80	MJ-80	0.60	0.80
MJS-100	MJ-100	0.75	1

Operating Limits:

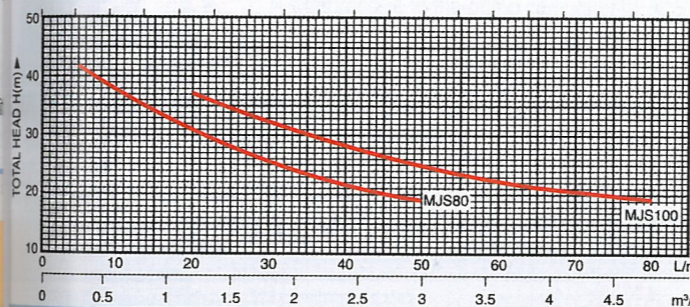
- Suction lift up to 9m
- Fluid temperature up to 40°C
- Maximum ambient temperature 40°C

Pump Installation and Applications:

- These pumps are suitable for pumping clean water and fluids which are not chemically aggressive to the pump components

Structural Characteristics:

- Stainless steel pump body & cover
- Stainless steel mechanical seal (graphite to ceramic)
- Brass impeller with centrifugal radial flow type
- With thermal overload protector in single phase motor
- 45# steel shaft

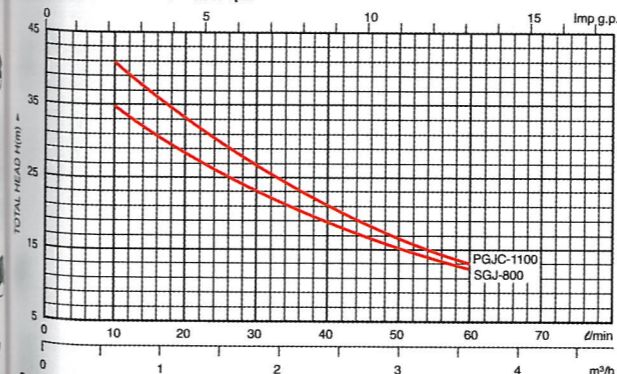


Garden Jet Pumps



Code 230V	kW
PGJC-1100	1.1
SGJ-800	0.8

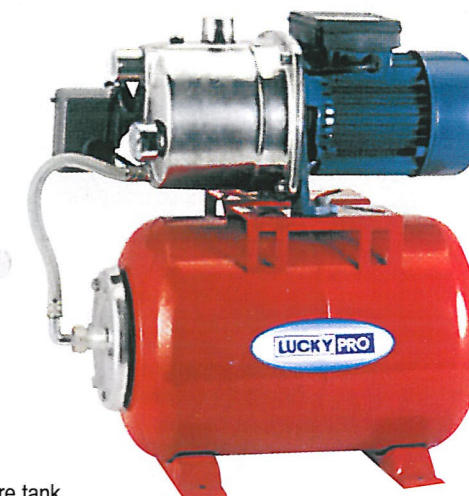
PERFORMANCE CHART AT n = 2900 rpm



• Suction Lift up to 9m • Plastic (PPO) Impeller • Liquid Temp: 35°C
• 45# Steel Shaft • Ceramic-Graphite Mechanical Seal

Booster Pumps c/w Pressure Tank (230V)

Ideal for domestic use

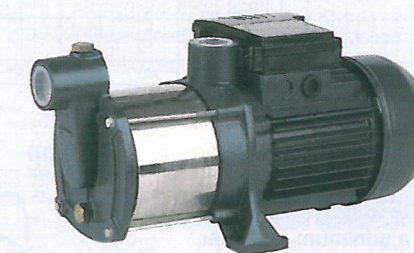


24 litre tank

Code	Power	Suction Lift	Head Max.	Flow Rate Max.
MJS80 AUTO	600W	9m	47m	3.0m ³ /h
MJS100 AUTO	750W	9m	46m	4.8m ³ /h

Multi-stage Booster Pumps (230V)

Quiet running horizontal pumps.



Features:

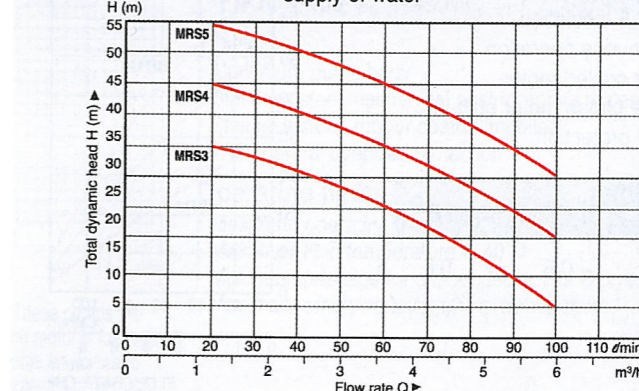
- Pump body in stainless steel
- Motor shaft in carbon steel
- Diffusers in glass filled polymer
- Mechanical seal in graphite and ceramic
- Motor housing in aluminium
- Windings impregnated with epoxy resin
- Impellers in stainless steel
- 1" Inlet & Outlet

Motor:

- Asynchronous, two poles.
- IP44 protection
- Class F insulation
- Continuous operation
- Single phase versions up to 1.25 HP with built-in thermal protection

Applications:

- Specially designed to work with clean water
- Domestic applications
- Irrigation
- Hydro-pneumatic sets for the automatic supply of water



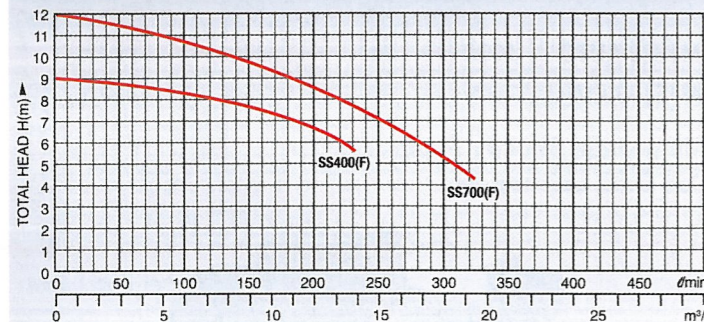
STAINLESS STEEL PUMPS

Vertical Stainless Steel Submersible Pump



230V With Float	230V No Float	kW	HP
SS400F	SS400	0.37	0.5
SS700F	SS700	0.75	1

- Submersible stainless steel pump
- With thermal overload protection
- Max. operating depth 5m below water level
- Max. temp. 40°C
- Can be used in sea water
- Stainless steel impeller and shaft

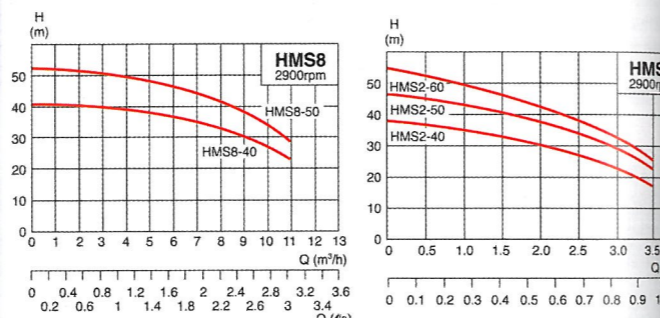


Horizontal Stainless Steel Pump (multistage)



400V	kW	HP
HMS2-40	0.55	0.75
HMS2-50	0.55	0.75
HMS2-60	0.75	1
HMS8-40	1.5	2
HMS8-50	2.20	3

- Used for: Domestic water; Pesticide dosing systems; Boosting & circulation systems
- Liquid Temp: -15°C to +90°C
- Max Pressure: 10 Bar



Multi-Stage Stainless Steel Submersible Pump

Submersible multi-stage pumps for open wells with a minimum diameter of 140mm.

Double mechanical seal in oil bath.

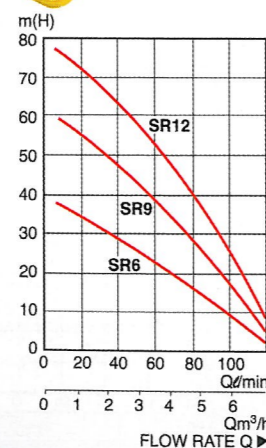
Materials:

- Outer casing stainless steel
- Impellers Plastic (PC)
- Motor shaft in stainless steel
- Diffusers in Noryl®, and glass loaded polymer
- Double mechanical seal in graphite and alumine

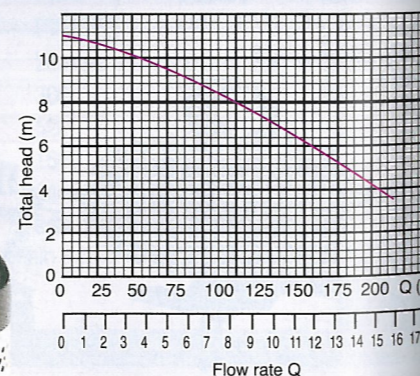
Motor:

- Asynchronous, two poles
- IP68 protection
- Class F insulation
- Continuous operation
- Water cooled motor
- Single phase motor built-in thermal protection

230V With Float	kW	HP
SR6	0.6	0.8
SR9	1.2	0.9
SR12	1.6	1.2



Submersible Vortex Pump - Clear Water 230(VAC)



Code	Power	Max-flow
CLEAN450	0.45kW/0.6HP	250ℓ/min

Clean pump is suitable for lifting clear water not containing abrasive substances. These pumps are designed for easy use and are extremely reliable even when subjected to continuous use, since the motor is fully cooled plus a double mechanical seal. Suitable for applications where maximum drainage potential is required.

Structural characteristic:

- Aluminium pump body
- Stainless steel mechanical seal (graphite to ceramic)
- Stainless steel, rubber coated impeller
- With thermal overload protection

Operating limits:

- Maximum operation depth 5m below water level
- Maximum fluid temperature 40°C

STAINLESS STEEL SEWAGE PUMP

VN-Range Stainless Steel Sewage Pumps - 230VAC

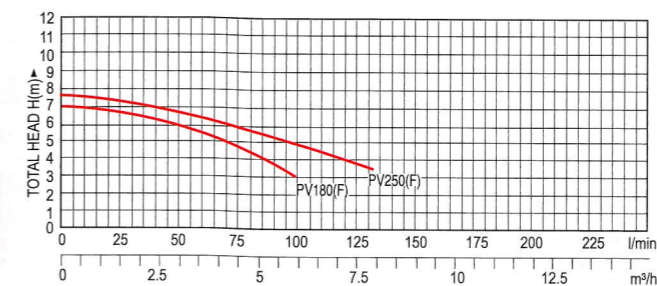
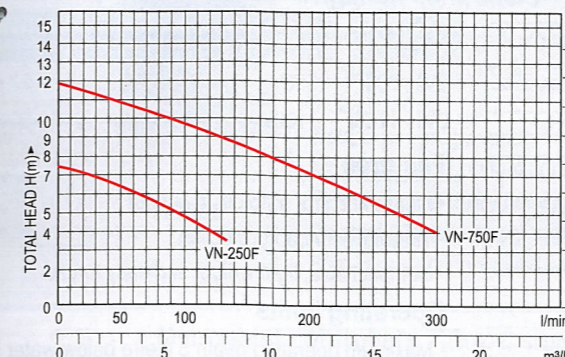
Code	KW	HP	Head Max	Outlet
VN-250F	0.25	0.35	7.5m	25mm
VN-750F	0.75	1	12m	50mm

Operating Limits:

- Fluid temperature up to 40°C
- Max passage for suspended solids 25mm dia
- Max operating depth 5m below water level
- Max emptying level 40mm from the bottom

Performance Range:

- Flow rate up to 300ℓ/min
- Head up to 12m



PV pumps are designed to lift water which is not highly chemically aggressive to the pump components. Applications include draining flooding in basements or garages and also pumping of domestic waste water and waste water containing fibrous matter. A purpose built pump pit (450 x 450 x 450mm) is recommended for fixed installations. This will allow total drainage and allow correct operation of the float switch. These pumps are easy to install and dependable when used automatically in fixed installations.

Stainless Steel Sewage pump with Plastic Casing - 230 VAC

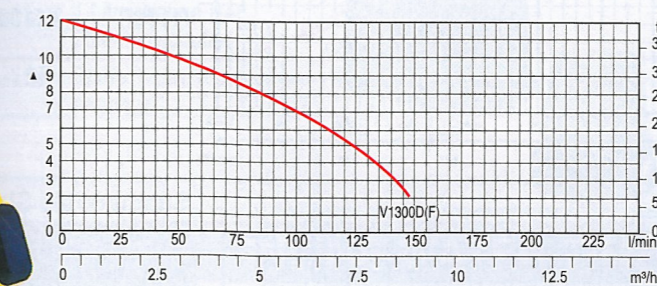
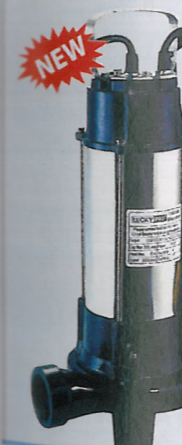
Code	kW	HP	Head Max	Outlet
PV180F	0.18	0.2	7m	40mm
PV250F	0.25	0.35	7.5m	40mm

Operating Limits

- Maximum operating depth 5m below water level.
- Maximum fluid temperature: 40°C
- Maximum passage for suspended solids Ø20mm
- Maximum emptying level 40mm from the bottom

Structural Characteristics

- Stainless steel pump body
- Stainless steel mechanical seal(Graphite to ceramic)
- Stainless steel shaft
- Reinforced polypropylene impeller
- Reinforced polypropylene pump casing and base plate
- c/w Thermal overload protection



V1300DF is designed to lift dirty water with long fibres or firm sundries. These are cut up by the cutter to avoid the impeller becoming blocked or entangled. Suitable for use in kitchen, sanitation, factory, mine and domestic applications.

Stainless Steel Sewage Pump with Cutting System - 230 VAC

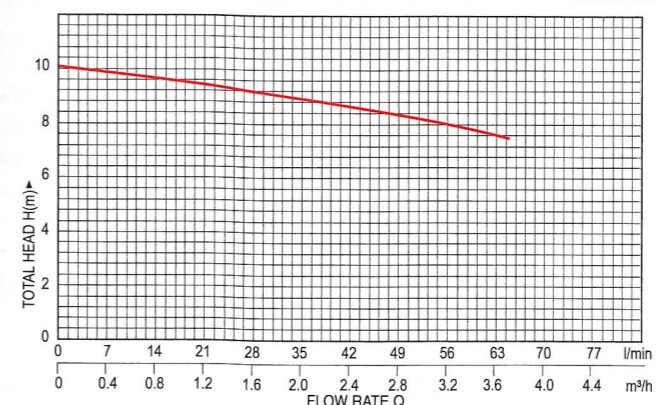
Code	kW	HP	Head Max	Outlet
V1300DF	1.3	1.75	12m	50mm

Operating Limits

- Maximum operating depth 5m below water level.
- Maximum fluid temperature: 40°C
- Maximum passage for suspended solids Ø10mm
- PH value in water : 4-10

Structural Characteristics

- Stainless steel pump body
- Stainless steel mechanical seal
- Cast iron impeller with cutter
- Stainless steel shaft



Submersible Drainage Pumps - 230VAC

Code	Power	Max Flow
FLOOR-450	450W	65ℓ/min

- Outlet 1"
- Aluminium pump body
- Stainless steel mechanical seal (graphite to ceramic)
- Stainless steel, rubber coated impeller
- With thermal overload protection

Operating limits

- Maximum operating depth is 5 metre below water level
- Maximum fluid temperature is 40°C
- Maximum passage for suspended solids Ø 5mm
- Maximum emptying level 10mm from bottom

DRAINAGE PUMPS

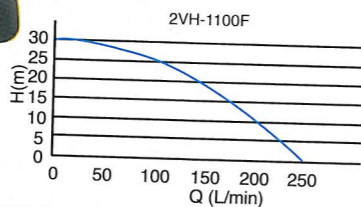
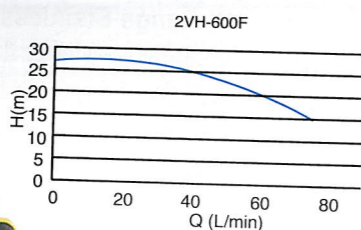
NEW



2VH-1100F



2VH-600F



Two Stage Submersible Pumps - 230VAC

Code	Input Power	Head max	Flow Rate Max	Outlet
2VH-600F	600W	75ℓ/min	27 metre	25mm
2VH-1100F	1100W	250ℓ/min	30 metre	50mm

Features

- Float switch for auto cut in cut out
- Thermal overload protection
- Compact size, light weight and easy to use.

Operating limits

- Maximum operating depth 5 metre below water level
- Maximum fluid temperature is 40°C
- Maximum passage for suspended solids Ø 0.2mm

DRAINAGE VORTEX PUMP



V750F

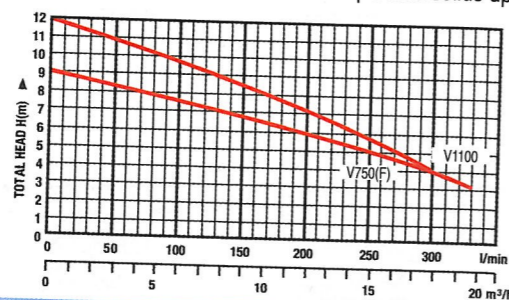
Structural Characteristics

- Stainless steel pump body
- Stainless steel mechanical seal (graphite to ceramic or SiC to graphite)
- Stainless steel shaft
- Available with or without float switch

- Cast iron impeller or nylon impeller with technopolymer open type
- With thermal overload protector in single phase motor

Pump Installation and Applications

These pumps are designed to pump dirty water which is not chemically aggressive to the pump components. In all cases where suspended solids up to Ø 30mm have to be dealt with



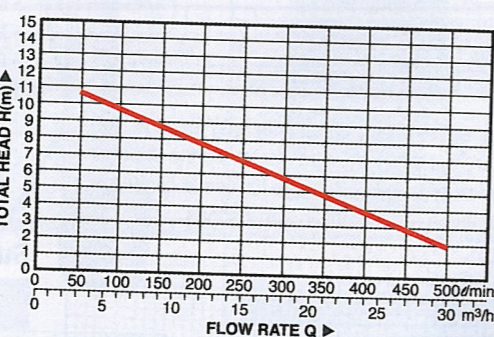
Code	230V With Float	230V No Float	kW	HP
V750F	V750	V750	0.75	1
V1100F	V1100	V1100	1.1	1.5

Submersible Single Vane Pump (for sewerage) - 230VAC

Code	kW	HP
MVS10-1	0.75	1

Pump Installation and Applications

The MVS10-1 submersible pump is designed to handle dirty water and sewage in domestic and civil applications. It is fitted with a stainless steel single vane impeller, and is suitable for pumping liquids containing suspended solids, including short fibres. It is particularly recommended for the transfer of domestic sludge, effluent and surface water, dirty water in areas such as: domestic housing, industrial applications and underground car parks.



Structural Characteristics

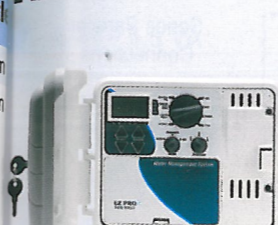
- Stainless steel pump body & base
- Stainless steel motor sleeve
- Stainless steel single vane impeller
- Stainless steel motor shaft
- Double mechanical silicon carbide seal
- Sealed induction motor with double impregnated class F winding, designed for continuous duty

Operating Limits

- Maximum operating depth 5m below water level
- Maximum fluid temperature 50°C
- Maximum passage for suspended solids ø 50mm
- Supplied with 5 metre neoprene cable

IRRIGATION

NELSON



8279ES



8276ES

Irrigation controllers

The EZ PRO JR irrigation controller. Versatile, easy to programme, simple to use.

- 3 programmes
- 3 starts per programme
- Advanced water budget control
- Programmable delay between zones
- External 230/24V power supply supplied for indoor mounting
- Built-in power supply with outdoor model

Stations	Outdoor Code	Indoor Code
4	8374	8274ES
6	8376	8276ES
9	8379	8279ES
12	8382	-

Rain Sensor 8501



Leaf Sensor

Micro mist controllers 230VAC supply, 24VAC output

Controller	Code	Accessory	Code
Micro mist control, timer only	TE MARK 1	Leaf sensor for controllers	LEAF 1
Micro mist control, timer, leaf & solar control (leaf not supplied)	TE MARK 3		

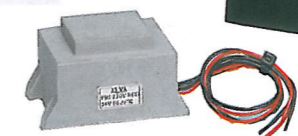
Solenoid Valves

Description	Code
24VAC Solenoid valve 25mm, 8 bar	EV100



25VAP

Description	Code
25VA 230/24VAC with flying leads	25VAW 230/24
25VA 230/24VAC plug type	25VAP-24-T



25VAW

IN-LINE FILTERS



- WL-1L 1 Litre Water Filter. 25mm inlet/outlet
- WL-1SF Spare 1 Litre replacement cartridge

VALVE BOXES



Description	Code
300x450mm Lockable rectangular valve box	VB1419-13B
150mm ø Non lockable round valve box	VB610
250mm ø Lockable round valve box	VB910-12

INLINE WATER TIMERS

NEW

Mechanical - 120min



Dial

Digital - 7day



Analogue - 7 day



Code	WM-1000	AML-080C	AML-1037B
Power Supply	Mechanical	2 x AA 1.5V (Excl)	2 x AA 1.5V (Excl)
No. of Programs	-	6 Programs	1 Program
Features	Set the timer to watering time required and turn on tap. Water will be cut-off when time elapses (¾ couplings).	Quick and easy to program Seasonal budget Adjusts program duration (0-200%)	Selectable time, duration and cycle (up to 7 days)