

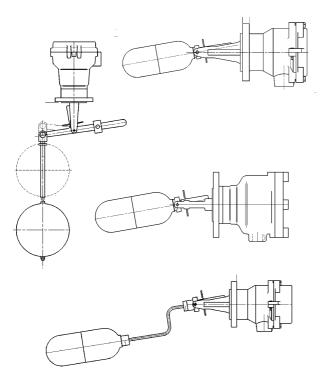
Mobrey magnetic level switches

Instruction leaflet IP310-1

Section 1: Storage & Handling M310-1

- ▶ General purpose
- ▶ Hoseproof & submersible
- ▶ Chemical duty
- ▶ Flameproof

Zone 1, gas group EExd IIC T6 Gas group 1 (mining) T6



Storage & handling

Solartron Mobrey magnetic level switches should be handled with care and respect at all times. They are level detection **instruments** and, whilst being of robust construction, should not be dropped or subjected to any mechanical abuse that could cause damage.

The switches should be stored on suitable racking in clean and dry conditions, and the factory packing and/or boxes should not be removed until the switch is ready for installation. The storage area should not experience ambient temperatures below 1° C, or above 60° C, and/or 70% humidity (RH).

These switches contain strong permanent magnets, so they should not be stored in close proximity to sources of electro magnetism or other strong magnets.

Switches in boxes may be stacked together without damage, but stacks must be such that the boxes are not crushed or damaged.

Solartron Mobrey switches have a shelf life in excess of 10 years provided the above precautions are followed.

When the switch is called for installation, it is essential that this manual is kept with the switch to guide the user in correct installation, resulting in a long and trouble free operation.

This product contains no asbestos or other harmful material which require notification or controlled disposal.

KEEP DRY



FRAGILE

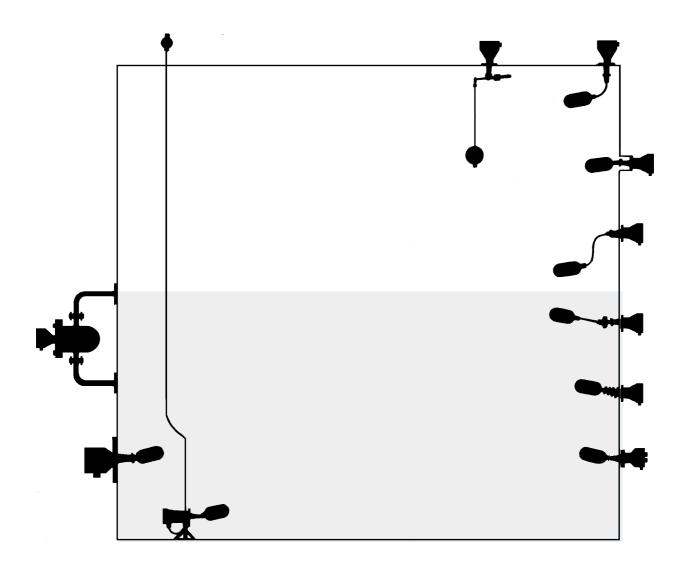


INSTRUMENT: WITH CARE





The complete Mobrey float switch range





Mobrey

magnetic level switches

Section 2: Installation M310-2

Instruction leaflet IP310-2

Direct mounting level switches

(Direct into vessel).

Unpack the Mobrey magnetic level switch from its box and remove all packing pieces, tie strings and tape. The gasket supplied with this product is a non-asbestos composite and must be handled with care to avoid damage.

This switch contains strong permanent magnets: Ferrous debris or particles may become attached to the float magnet. Always check the float magnet is clean before final installation.

The level switch should be positioned so that the float may move freely over its full travel and not foul the sides, bottom or top of the tank etc., in which it is mounted. Positions where turbulence may be caused by agitators or by inlet connections should be avoided. The plant should be clear of any loose materials or metallic particles which might accumulate round the float magnet and interfere with the operation of the switch. Where the liquid may contain sediment or solid particles, particular attention must be given to keeping these free of the float assembly.

When mounted the switch flange should be vertical within two degrees either way. A table of mounting flange details is given on Page 2-2.

When fitted to an open tank or sump, not under pressure, the switch may be mounted through a hole cut in the tank and secured with bolts or studs.

Mobrey 'companion' flanges are available to facilitate mounting - details on page 2-2.



Mobrey magnetic level switches have the type number stamped on a nameplate fixed either to the end cap, switch body or on the terminal box. For catalogue models the type number bears the prefix 'S' for the switch head and 'F' for the float unit. The float unit carries a permanent magnet which is opposed magnetically to a similar magnet in the switch assembly. The switch contacts are changed over with a snap action by magnetic repulsion between the magnets, acting across the wall of the switch body. No intermediate 'off' position can be obtained.

Variations to catalogue models are identified by a 7****/
*** type number. The nearest standard production type
number is also quoted on the equipment nameplate to
allow identification of the relevant paragraphs in this
manual.

Level Switches for vertical mounting

A suitable mounting bracket is required for mounting the switch over open top tanks and sumps.

Note: The diameter of a standard float on a vertical float rod is larger than the hole required for the switch head and the float must therefore be fitted from inside the vessel.

The switch should be conveniently positioned at a point of access for both installation and maintenance. Care should be taken to ensure that condensation cannot drain down the conduit into the switch head.

Switches in pressurised vessels

A studded pad is necessary where the switch is required to operate in a pressure vessel.

See page 2-3 for flange and bolting data.

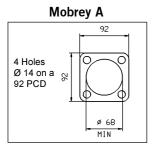
Level switches in chambers

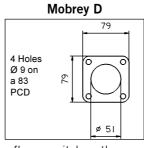
Mobrey magnetic level switches supplied in or with an external chamber (cage) are supplied loosely assembled only. It is the responsibility of the installer to check that all packaging, tie strings, tapes and filler materials are moved from around and inside the chamber and switch before the assembly is bolted down and in accordance with the torque settings given on page 2-3.

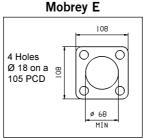
Switches mounted in chambers external to the main vessel should be fitted with suitable valves so that the chamber may be blown down periodically or isolated for routine maintenance as required.

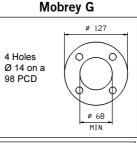
Mounting flange details

Mobrey magnetic level switches have raised face flanges, and are supplied with non-asbestos gaskets. Details of mating flanges required for standard Mobrey flanges are shown below :-









To facilitate mounting of Mobrey flange switches, the following mounting accessories are available :-

For 'A' Flange Weld on pad J184 Weld on nozzle J786 Backing flange for GRP tanks J863

For 'G' Flange Weld on pad J800 Weld on nozzle J799

Flange Ε Studs Α D G Size mm 12 8 16 12 Projection mm 30 35 35

(Refer to installation instructions supplied with backing flange kit)

Switches with international flanges are in accordance with international flange standards. The flange is of composite design, with a stainless steel fork flange which supports the float and also forms the raised face of the flange, and a loose ring back flange. These composite flanged switches have a back flange alignment pin to ensure correct orientation. The pin must be located in recess in fork flange before tightening mounting bolts.

S01 Mobrey A M20 APV S03 Mobrey A M20 - S36 Mobrey A M20 APV S163 Mobrey A Pg16 -	
S03 Mobrey A M20 - S36 Mobrey A M20 APV S163 Mobrey A Pg16 -	
S36 Mobrey A M20 APV S163 Mobrey A Pg16 -	
\$163 Mobrey A Pg16 -	
S179 Mobrey A M20 -	
S181 Mobrey A Pg16 -	
S190 Mobrey A M20 -	
S195 Mobrey A M20 -	
S250 Mobrey G -	
\$251 3" 300lb ANSI -	
S253 DN 80 PN40 The gunmetal -	
S254 4" 300lb ANSI body has M25 -	
S255 DN 100 PN40 -	
S256 3" 150lb ANSI -	
S257 4" 150lb ANSI -	
\$257	
S261 3" 900lb ANSI body has M20 -	
S268 DN100 PN 64 -	
S269 DN125 PN40 -	
S270 DN125 PN64 -	
S271 DN150 PN64 -	
S271 DN80 PN64 -	
S272 BN00 1 N04	
S275 Middley G	
S276 6 13010 ANS1 - S277 Mobrey G -	
S277 Mobiley G -	
S357 Mobrey A/E M20 -	
S357 Mobiley A/L M20	
S417 S418 DN80 PN 40 M20 APV	
S418 DN100 PN 40 M20 APV	
T 117	
\$424 3" 300lb ANSI M20 APV \$425 4" 300lb ANSI M20 APV	
\$428 DN65 PN16 M20 APV \$429 DN80 PN16 M20 APV	
S429 DN00 PN16 M20 APV S430 DN100 PN16 M20 APV	
S430 DN100 PN16 M20 APV S431 DN125 PN16 M20 APV	
\$434 DN150 PN40 M20 APV \$435 DN100 PN64 M20 APV	
0110	
011 00011 43101	
S490 3" 900lb ANSI M20 APV	

Switch heads are available with air pilot valve switching where shown APV. In this case, air connections are brass compression couplings to suit 6.0mm Copper or nylon pipe. (Coupling thread: 1/4" BSP)

Information in this section is to the best of our knowledge correct. Since conditions of use are beyond our control users must satisfy themselves that bolt/torques are suitable for the flange/process/conditions of the applications.

Bolting torque details: High tensile steel bolts

IMPORTANT :-

For use with high tensile steel bolts only

Mobrey uses high tensile bolts/studs as standard for pressure vessel flange applications which allows use to full switch rating. The following recommended torques assume the use of high tensile bolts. If ordinary carbon steel bolts are fitted see below for bolt tightening torques.

Min. torques in Nm (lbf. ft.). Max. torque = Min + 10%

Flange	#150	#300
3"	230 (169)	125 (92)
4"	190 (140)	220 (169)
6"	352 (260)	

Flange	PN16	PN40
DN65 DN80 DN100 DN125 DN150	185 (136) 125 (92) 125 (92) 195 (144) 255 (188)	80 (59) 95 (70) 150 (111) 225 (166) 280 (206)
MOBREY A MOBREY G		34 (25) 26 (20)

Bolt torques for SPIRAL WOUND gaskets with a compression stop: high tensile steel bolts only.

Bolt size	Nm	lbf.ft
5/8"	122	90
3/4"	203	150
7/8"	325	240
1"	499	368
1 - 1/8''	722	533
1 - 1/4"	101	750

Gasket compression for joints without compression stops: high tensile steel bolts only.

Initial gasket	Compressed	Comp- ression
thickness	thickness	ression
1.6mm	1.3/1.4mm	0.2/0.3mm
2.5mm	1.9/2.0mm	0.5/0.6mm
3.2mm	2.3/2.5mm	0.7/0.9mm
4.4mm	3.2/3.4mm	1.0/1.2mm
6.4mm	4.6/5.1mm	1.3/1.8mm

Bolting torque details: Carbon steel bolts only

Min torques in Nm (lbf.ft) Max torque = min + 10%

Flange	#150	#300
3" 4" 6"	54 (40) 54 (40) 95 (70)	95 (70) 95 (70)

Flange	PN16	PN40			
DN65	58 (43)	58 (43)			
DN80	58 (43)	58 (43)			
DN100	58 (43)	113 (83)			
DN125	58 (43)	194 (143)			
DN150	113 (83)	194 (143)			
MOBREY A	20 (15)				
MOBREY G		20 (15)			

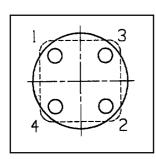
IMPORTANT :-

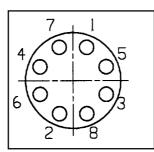
For use with carbon steel bolts only

If ordinary carbon steel or similar lower quality bolts are used the torques recommended are as shown on the left. The gasket sealing force created by the application of these torques is not sufficient to withstand full flange pressure rating. To achieve full rating, use high tensile steel bolts as above.

If in doubt about your bolt/sealing application consult your engineering department or gasket manufacturer.

Bolts should be lubricated with suitable grease. Correct bolt tightening sequence :-





IMPORTANT NOTE: Sheet gasket materials

This product contains or is fitted with non asbestos gaskets in accordance with BS7531 Grade X, which specifies maximum operating temperatures as follows:

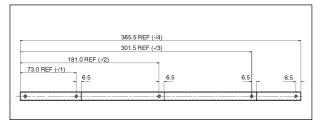
Gas/steam/vapour : 250°C Liquid : 400°C

If your application is in excess of these limits, a suitable alternative gasket should be fitted. You may consider compressed asbestos fibre (CAF) or, if your policy is one of non-asbestos, then a spiral wound gasket with a non asbestos filler may be suitable.

Adjustments: Switches for horizontal mounting - pump control duty.

Switches fitted with F68 type float unit may be adjusted on site to meet pump control differential requirements. The F68/4 has pre-drilled holes along the rod to allow the user to achieve the /2 and /3 differentials in the table below.

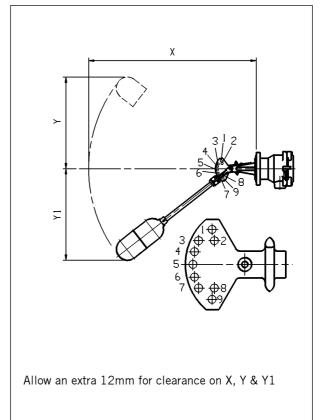
Simply cut the rod to the required length as shown on the drawing below:-



Switches for horizontal mounting

The operating levels and differentials may be varied by locating the stops in accordance with the details shown in the table below.

Positive dimensions give the switch change-over position above the centre line. Negative dimensions give the switch change-over position below the centre line. To alter stop positions: withdraw split pin, move stop to new location, re-insert split pin and open out to lock. These dimensions are approximate for cold water and will vary for liquids of different S.G.



Float rod lengths and differentials for F04 and F68 floats

	F68/1 Overall length X = 360 Min. SG 0.72					Oı	F68/2 Overall length X = Min. SG 0.80			0	Ove	Ferall lei Min.			00	Ov	Ferall lei Min.			3
Stop posi-	Level about centre line			Min. tank dims.		Level about N		Min. din			vel abo entre li		Min. dir			vel abou ntre lin		Min. dir		
tion	High	Low	Diff	Υ	Y1	High	Low	Diff	Υ	Y1	High	Low	Diff	Υ	Y1	High	Low	Diff	Y	Y1
1-4 1-5 1-6 1-7 1-8 1-9 2-5 2-6 2-7 2-8 2-9 3-5 3-6 3-7 3-8 4-6 4-7 4-8 5-7 5-8	+137 +137 +137 +137 +137 +137 + 94 + 94 + 94 + 70 + 68 + 68 + 68 + 17 + 17 + 17 - 32 - 35 - 35	+113 + 59 + 5 - 44 - 67 - 110 + 59 + 5 - 44 - 67 - 110 + 2 - 44 - 67 - 110 - 49 - 67 - 110	24 79 132 181 204 247 35 89 138 161 204 18 63 112 135 17 84 127 17 32 75	216 216 216 216 216 216 178 178 178 178 152 152 152 152 102 102 102 63 63 63	63 63 102 152 178 216 63 102 152 178 216 63 102 152 178 216 102 152 178 216 152 178 216	+198 +198 +198 +198 +198 +137 +137 +137 +137 +137 +127 +125 + 98 + 98 + 27 + 25 + 25 - 49 - 54	+165 + 86 + 87 - 100 - 162 + 86 + 88 - 67 - 100 - 162 + 2 - 67 - 100 - 162 - 100 - 162 - 75 - 100 - 162	33 112 190 265 298 360 51 129 204 237 298 24 90 165 198 260 25 125 187 25 46 108	292 292 292 292 292 299 229 229 229 190 190 190 191 114 114 114 63 63 63	63 63 114 190 229 292 63 114 190 229 222 63 114 190 229 292 114 190 229 292 114 190 229 292 292	+270 +270 +270 +270 +270 +189 +189 +189 +140 +137 +137 +137 +44 +44 -70 -73 -73	+224 +114 + 10 - 90 - 137 - 213 +114 + 10 - 90 - 137 - 213 + 10 - 90 - 137 - 213 - 90 - 137 - 213 - 213 - 213 - 213 - 213 - 213	46 156 260 360 407 483 75 179 279 326 402 35 127 227 274 350 36 134 181 257 32 64	368 368 368 368 368 292 292 292 292 241 241 241 241 140 140 140 63 63 63	63 63 140 241 292 368 63 140 241 292 368 140 241 292 368 140 241 292 368 241 292 368	+301 +301 +301 +301 +301 +203 +203 +203 +203 +203 +158 +158 +158 +158 +38 +38 +38 +38 -69 -69	+247 +127 + 6 - 101 - 155 - 254 +127 + 6 -101 - 155 - 254 + 6 - 101 - 155 - 254 + 6 - 101 - 155 - 254 - 101 - 155 - 254 - 254	54 174 295 402 456 555 76 197 304 358 457 31 151 259 313 412 32 139 193 283 32 86 185	406 406 406 406 323 323 323 323 266 266 266 154 154 154 63 63	63 154 266 323 406 63 154 266 323 406 154 266 323 406 232 406 232 406 232 406
6 - 9	- 84	- 110	26	63	216	- 127	- 162	35	63	292	- 163	- 213	51	63	368	- 184	- 254	70	63	406

Adjustments: Switches for vertical mounting; pump control or alarm duty

Switches with F21 type float unit must be set on site to perform either alarm or pump control duty.

Stops on the float rod are moved up or down to set the levels at which the switch contacts change over.

The position of the balance weight should be adjusted as follows:

Level alarm

The switch can be used for either high or low level alarm, but one switch cannot perform both functions.

To provide both high and low level alarm, two switches must be fitted. The float rod has two adjustable stops; the lower stop should be positioned on the float rod at about 100mm below the required switching point.

The upper stop must be positioned at the top of the float rod (it is not used in alarm mode).

Without the weight of the float bearing on the stop, the counter-balance weight is down, holding the float rod in the up position. For low level alarm the weight of the float bearing on the stop will cause the switch to change over.

For high level alarm the float lifting off the stop will allow the counter balance weight to raise the float rod, so causing the switch to change over.

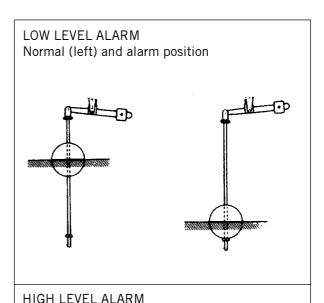
The switch will revert to the normal position as soon as the liquid level withdraws from the alarm point.

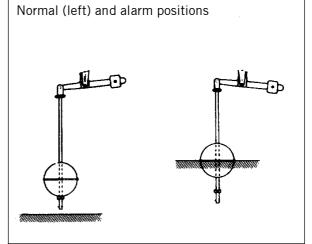
Pump control

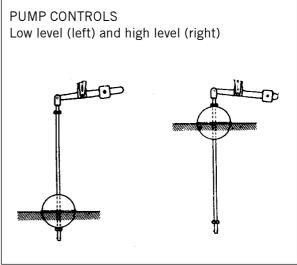
The counter balance weight balances out the weight of rod and stops, excluding the float. At low level, additional weight of float bearing on bottom stop operates switch. At high level, bouyancy of the float lifting against top stop operates the switch. The switch remains in its switched position until the liquid level alters to the opposite extreme.

Note: This arrangement must not be used for level alarm duties.

On no account should the float rod be cut shorter, as the balance of the system will be upset.







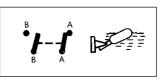
Electrical characterisitics and wiring details

Type D & D* switches (eg S01DB, S36DA, or S179DB)

RATING : Max. voltage V Max. current A Max. power

A.C.	D.C. Inductive	D.C. Resistive
440	240	240
8.0*	1.0	2.0
2000 VA	35 Watts	70 Watts
Power factor	Time constant	
0.4 Min	40 ms max	

* Note: Max. current above 210°C is 5.0A



AA makes on rising level



BB makes on falling level

Type D6*, H6* & B6* switches (eg. S36D6A or S424H6A)

RATING : Max. voltage V Max. current A Max. power

A.C.	D.C. Inductive	D.C. Resistive
440	240	240
5.0	1.0	2.0
2000 VA	35 Watts	70 Watts
Power factor	Time constant	
0.4 Min	40 ms Max	

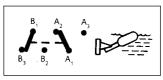
Double pole change over : Two independent circuits. See Note V on page 2-7

Two

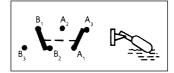
independent

single pole

single throw contact sets.



 $A_1 A_2$ $B_1 B_3$ Make on rising level



 $\begin{array}{ll}
A_1 \cdot A_3 \\
B_1 \cdot B_2
\end{array}$ Make on falling level

Notes on electrical wiring and connections

i) Type, **P*** OR **P6*** switches (eg S01PB, S36PA or S424P6A)

These switches have the same electrical configuration as their respective D* and D6* versions. However, the ratings are greatly reduced in order to protect the plated contacts:

The plating may be permanently damaged if this insert is used to switch circuits above the following limits:

Resistive	Inductive
300V: 12mA	24v: 2mH/200mA
24V: 250mA	24v: 750mH/10mA

ii) Connections:

Refer to page 2-2 for details of conduit/connection sizes.

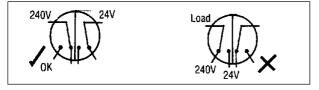
iii) Direct starting of motors

Mobrey switches can be used for the direct starting of small motors (1/10HP) only. For larger motors, switches should be used in series with the operating coils of relays, contactors or solenoid valves and fused separately.

iv) High temperatures

Suitable heat-resisting cable should be used where switch heads are subject to temperatures in excess of ambient.

v) Type **D6**, **P6**, **D6B**, **P6B**, **H6** & **B6** switch mechanisms. Different voltages may be applied to A and B circuits respectively, but differing voltages must not be applied to circuits on the same side.



vi) Earthing

It is recommended that the earthing terminal(s) provided are used to earth the level switch, particularly when the switch is fitted to non-metallic or coated vessels or flanges.

LVD - Low Voltage Directive

These switches comply with the provisions of the machinery directive 89/392/EEC and the Low Voltage Directive 73/23/EEC.

Standards applied: EN60947 Parts 1 and 5.1

B.A.S.E.F.A. - Certified flameproof switches

To comply with the Certificate issued with these switches, the method of connection by conduit or cable gland must conform to B.S. 5501: Parts 1 & 5:1977.

H.S.E. (M) - Certified flameproof switches

The cable entry must be by one of the following cable glands:

Hawke type 6/470/653/B/T } Suitable for B.I.C.C type 25 BAR-T-FI } P.W.A. cable J. Davis Ltd Type 62112003 } types 62 & 63

NOTE: A cable gland is supplied in the box with the S01DB, S179, Mini-switch, and S36 range.

It is a brass cable gland, nickel plated, with a fully insulated neoprene seal and with clamping range to suit 8mm to 13mm OD cable.

Protection type IP68. The cable gland has temperature resistance -20°C to +180°C although maximum 80-110°C as a permanent temperature on application.

Air pilot valve characteristics

Type AP* & AM* Switches (eg. S01 APA or S36 AMA)

Type **AP**:

Maximum air pressure valve: 7 bar (100 psi)

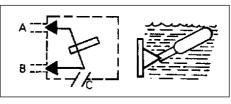
Maximum air flow through valve: 66 litres/min at 7 bar.

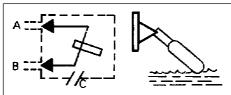
Air must be clean and dry.

Type **AM**:

Maximum air pressure through valve 1.4 bar (20psi) Air must be clean and dry.

Note that with Type AM inserts, the magnet is in attraction with the float magnet, not in repulsion as shown in the diagrams alongside which apply to Type AP inserts





on/off switching or modulating of air circuits

Connect air operated device to port C.
Connect air supply to either port A or B.
Unused port becomes the exhaust.
Although connections are identical, Type AP cannot be used as Type AM, or vice-versa.

Operation

Once installed in accordance with section 2.0, the Mobrey magnetic level switch is ready for operation.

A test may be made by lifting the float by hand to check that the float moves freely and the relevant alarm or pump control relays operate. On no account try to operate the float with a rigid rod which could cause damage to the float itself.

Solartron Mobrey Limited

158 Edinburgh Avenue Slough Berks England SL1 4UE Tel: 01753 756600 Fax: 01753 823589 e-mail: sales@solartron.com www.solartron.com a Roxboro Group Company

Bestobell Mobrey GmbH Deutschland tel: 0211/99 808-0 Solartron Mobrey Ltd China tel: 021 6353 5652 Mobrey sp z o o Polska tel: 022 871 7865 tel: 08-725 01 00 Mobrey AB Sverige Mobrey SA France tel: 01.34.30.28.30 Mobrey SA-NV Belgium tel: 02/465 3879 Solartron Mobrey USA tel: (281) 398 7891



The right is reserved to amend details given in this publication without notice







Mobrey

magnetic level switches

Section 3: Maintenance and spares M310-3

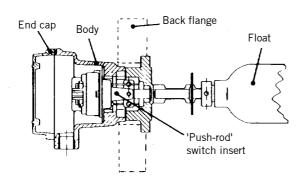
Instruction leaflet IP310-3

Maintenance

Mobrey magnetic level switches are designed for long and trouble free operation, provided regular routine maintenance is carried out in accordance with the recommendations below:-

- (1) Switch off electrical supply and isolate or drain down as necessary.
- (2) Remove level switch from tank or chamber.
- (3) Remove deposits of sludge, scale etc. Any tightness in the movement of the float assembly or the pivot pin should be investigated and corrected.
- 4) Remove any metallic particles adhering to the float magnet assembly by wiping with plasticine. Avoid contamination by swarf, etc, on benches and tools.
- 5) On switches with shrouded float units, the shroud and gaiter should be stripped and any solids which have collected on the inside removed.
- 6) The gasket should be replaced and the switch installed and bolted down in accordance with the installation instructions given in Section 2.

To examine or replace internal switch assembly



a) Type D*, P*, D6*, P6*, H6* and B6* Switches (eg S36DA, S424H6A, S179DB, S01DB)

- i) Unbolt end cover & open on hinge.
- ii) Disconnect wiring.
- iii) Unscrew two cheese head screws retaining switch mechanism (pan head in the case of the H6 and B6 type mechanism) and withdraw switch mechanism.
- iv) Ensure that interior of switch body is clean and dry.
- v) Manually operate magnet on switch insert from side to side do not handle roughly and check that magnet returns to its mid-position when released. (Does not apply to type H6 and B6 mechanism.)
- vi) Examine pivot points and check that they are free of dirt or contamination and do not hinder or restrict magnet movement. (Does not apply to H6 and B6 mechanism.)

If any parts require replacement, a complete internal switch mechanism must be fitted.

vii) Replace switch aligning mechanism so that locating lug engages in slot in mounting plate. (Switches fitted with Type H6 and B6 mechanism do not have a mounting plate in switch body - the mechanism can only be fitted in one position, determined by the fixing screws.) It is essential to ensure that no swarf or debris has become attached to the magnet or entered the switch body.

Note that Type H6 and B6 mechanism seats on the diaphragm of the fork flange, and is held in position by a spring clamp plate. Ensure switch insert operates correctly when replaced by manually operating float.

- viii) Re-connect electrical wiring
- ix) Check that 'O' ring seal is in good order replace if necessary then close end cover and secure with three fixing bolts.

b) Type AP* & AM* switches (eg S01APA or S36 AMA)

- i) Uncouple air connections from valve block.
- ii) Unscrew three retaining bolts and withdraw valve block.
- iii) Ensure that interior of switch body is clean and dry.
- iv) Manually operate magnet on valve block do not handle roughly check that magnet pivots freely and ensure there is no dirt or contamination on pivots which could hinder magnet movement.

Replace valve block if found faulty.

v) Replace valve block in switch body ensuring that no dirt or debris has become attached to the magnet. Check 'o' ring seal, replace if necessary, then replace three fixing bolts and reconnect air lines.

Spares

Each Mobrey magnetic level switch has a set of recommended spare parts which are available from Solartron Mobrey at the address below, or from your local Solartron Mobrey appointed agent.

These genuine Solartron Mobrey spare parts are supplied in kit form so that all the relevant components and assemblies are included, ensuring fast and reliable servicing of the product. Please contact Solartron Mobrey in the event of any difficulty in the installation, operation or maintenance of the product. A member of our spares and repairs department will be happy to assist.

Thank you for buying a Solartron Mobrey magnetic level switch. We are confident it will give you years of reliable and trouble free operation.

Solartron Mobrey Limited

158 Edinburgh Avenue Slough Berks England SL1 4UE Tel: 01753 756600 Fax: 01753 823589 e-mail: sales@solartron.com www.solartron.com a Roxboro Group Company

Bestobell Mobrey GmbH Deutschland tel: 0211/99 808-0 China tel: 021 6353 5652 Solartron Mobrey Ltd Polska tel: 022 871 7865 Mobrey sp z o o Mobrey AB Sverige tel: 08-725 01 00 Mobrey SA France tel: 01.34.30.28.30 Mobrey SA-NV Belgium tel: 02/465 3879 USA tel: (281) 398 7891 Solartron Mobrey



The right is reserved to amend details given in this publication without notice

