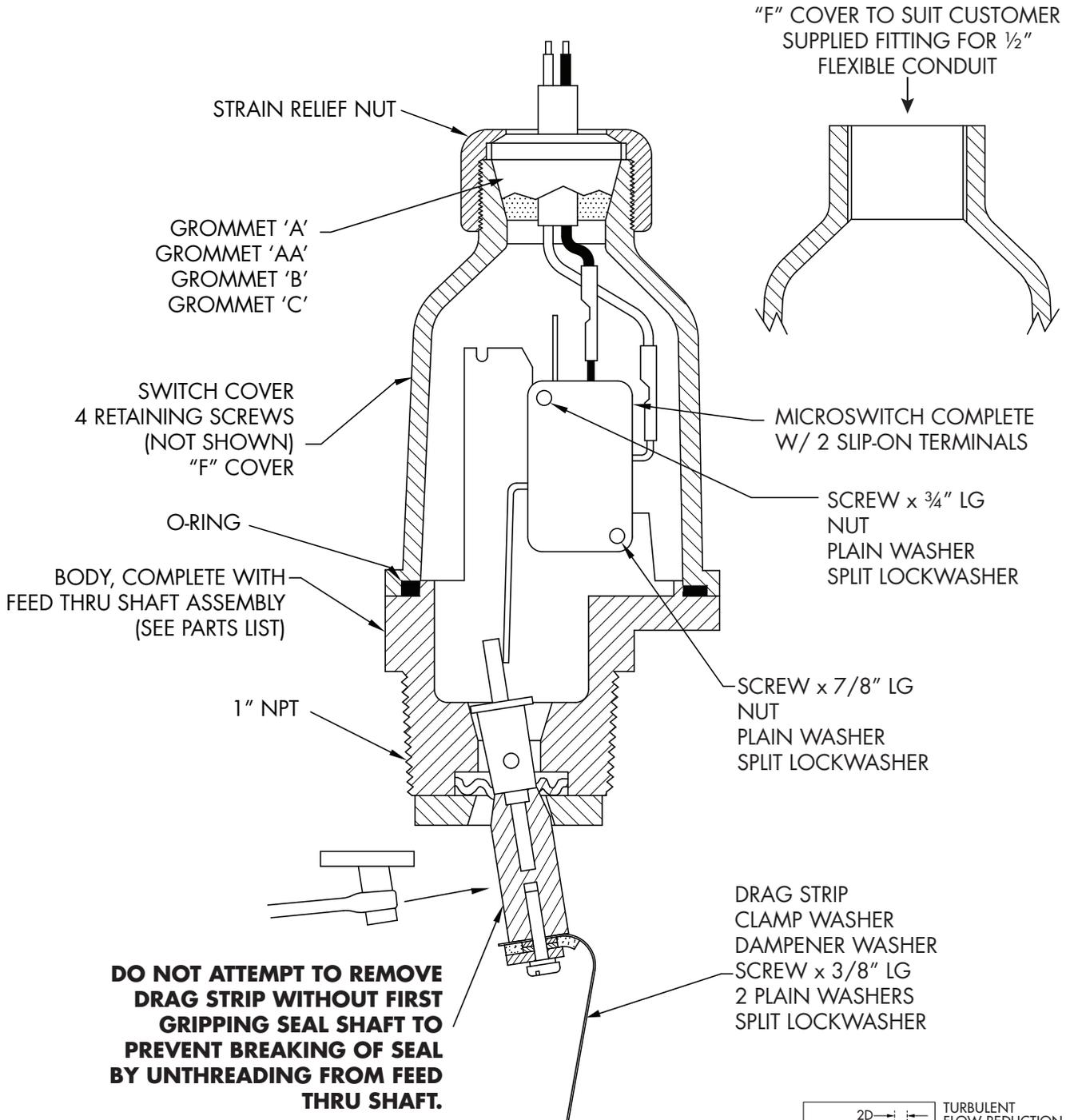


MODEL Q-8DS

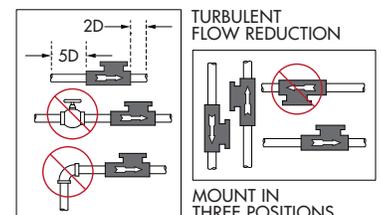
HARWIL CORPORATION

541 KINETIC DRIVE, OXNARD, CA 93030
 TEL: (805) 988-6800 FAX: (805) 988-6804
 EMAIL: HARWIL@HARWIL.COM

INSTALLATION INSTRUCTION SHEET



PARTS LIST FLUID FLOW SWITCH



MODEL Q-8DS

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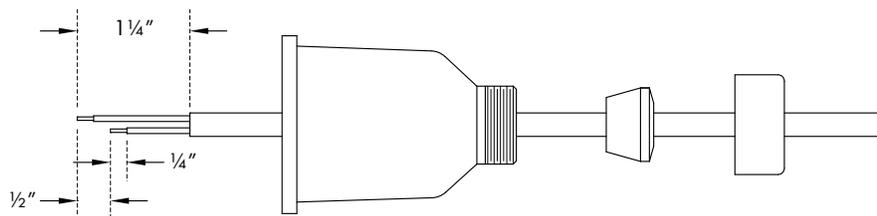
INSTALLATION INSTRUCTIONS

Model Q-8DS is normally mounted in a 1½" x 1½" x 1" or 2" x 1" SST PVC Tee, which may be plumbed into the system in vertical or horizontal lines, right side up or inverted using normal PVC pipe cement. Make sure that flow direction arrow on the cover is aligned with the flow in the pipe.

An unmounted Q-8DS should be threaded into the 1" NPT stem of the Tee after checking for uniform coating of threads with Teflon tape. Tighten sufficiently to produce a leak-tight seal and continue tightening up to one full turn to align flow direction arrow on cover parallel with flow axis of Tee. Check through open end of Tee that drag strip moves freely and is perpendicular to the flow axis. Install in pipe with flow direction arrows pointing correctly in flow direction.

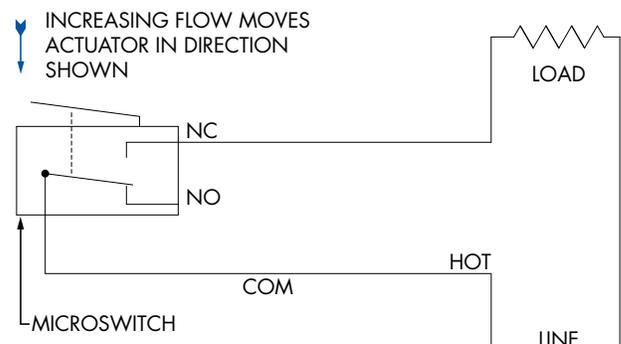
ELECTRICAL WIRING

1. Remove strain relief nut, grommet, and switch cover.
2. Strip outer jacket of electrical cord back approximately 1¼", stagger ½" and strip leads ¼".
3. Remove slip-on connectors from microswitch terminals and crimp or solder to leads.
4. Feed cable through strain relief nut, grommet, and cover.
5. Apply slip-on connectors to appropriate terminals of microswitch. Slide cover down cable and fasten to body with 4 screws. Slide grommet down cable until small end is level with outer jacket. Push grommet into tapered hole of cover, hold cable jacket to prevent rotation and tighten strain relief firmly.
6. If type "F" cover is supplied, connect desired conduit fitting to cover. Prepare leads, attach to slip-on connectors per STEP 2 and apply to appropriate microswitch terminals. Attach electrical conduit-to-conduit fitting. Exercise reasonable care when assembling metal flexible conduit to prevent fracture of plastic cover. Rigid conduit is not recommended.



WIRING SCHEMATIC

Contacts are closed when flow rate is above microswitch set point (15-20 GPM). Power to load interrupted when flow decreases below this point.



MODEL Q-8DS

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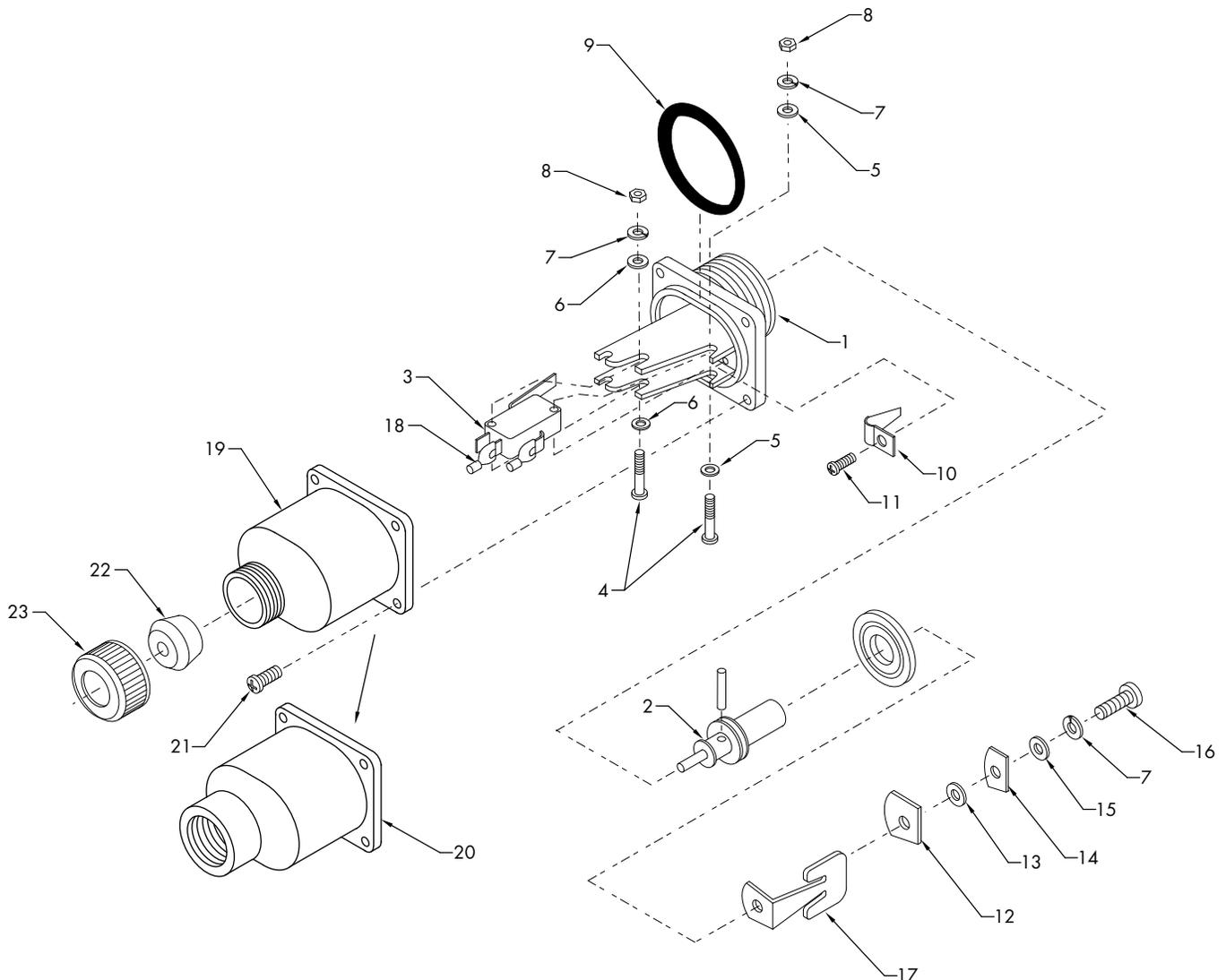
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Q-8DS (SERIES 65000)

#	PART NAME	QTY	PART #	#	PART NAME	QTY	PART #
1	BODY WITH SWITCH BRACKET	(1)	65101	17	DRAG STRIP (OPTIONAL)		
2	FEED THRU SHAFT (ASSEMBLY ONLY)	(1)	65103		A - DRAWING 10502	(1)	65115
	A) SEAL SHAFT	(1)	65104		B - DRAWING 10507	(1)	65116
	B) DIAPHRAGM	(1)	65105		C - DRAWING 10512	(1)	65117
	C) DIAPHRAGM WASHER	(1)	65106		D - DRAWING 10539	(1)	65118
	D) PIVOT PIN	(1)	65107		E - DRAWING 10564-A	(1)	65119
	E) CROSS PIN	(1)	65108		F - DRAWING 10566	(1)	65120
3	MICROSWITCH	(1)	65109		G - DRAWING 10570-A	(1)	65121
4	SCREW	(2)	119-S		H - DRAWING 10593	(1)	65122
5	WASHER	(2)	301-W		I - DRAWING 10596	(1)	65123
6	WASHER	(2)	300-W		J - DRAWING 10600	(1)	65124
7	WASHER	(3)	311-W	18	TERMINALS	(3)	706-T
8	NUT	(2)	219-N	19	COVER (MALE) (OPTIONAL)	(1)	60125
9	O-RING	(1)	65110	20	COVER (FEMALE) (OPTIONAL)	(1)	60126
10	SPRING	(1)	65111	21	SCREW	(4)	109-S
11	SCREW	(1)	102-S	22	GROMMET #A (OPTIONAL)	(1)	10440
12	CLAMP WASHER	(1)	65112		GROMMET #AA (OPTIONAL)	(1)	10441
13	WASHER	(2)	300-W		GROMMET #B (OPTIONAL)	(1)	10442
14	DAMPENER WASHER	(1)	65113		GROMMET #C (OPTIONAL)	(1)	10443
15	WASHER	(1)	302-W	23	STRAIN RELIEF NUT	(1)	60127
16	SCREW	(1)	120-S				



CERTIFICATE OF CONFORMANCE

All Harwil Corporation ("HARWIL") products are manufactured using new materials and components. Our products meet the applicable performance and materials specifications indicated in our current Specifications Sheets and Parts List. HARWIL endeavors to obtain its materials and components from American Companies.

DOMINANCE OF HARWIL LIMITED EXPRESS WARRANTY

Each user **MUST** make appropriate analysis and tests to determine the suitability of the HARWIL product for the intended use prior to purchase.

HARWIL warrants that all HARWIL products will be free from defects in material and workmanship for a period of one year from the date of original shipment. This Warranty shall be LIMITED to the replacement and reconditioning of our products and parts. HARWIL reserves the right and sole discretion to modify or change the composition, design and appearance of its products at anytime.

THIS WARRANTY SHALL BE IN LIEU OF ALL WARRANTIES OF MERCHANTABILITY AND OF ALL WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE RELATING TO HARWIL PRODUCTS AND PARTS. BUYER'S SOLE REMEDY SHALL BE REPLACEMENT OR RECONDITIONING AS SET FORTH HEREIN.

HARWIL SHALL INCUR NO OBLIGATIONS HEREUNDER AND NO LIABILITY IN THE EVENT OF (1) BUYER NOT FULFILLING ITS RESPONSIBILITIES; INCLUDING AS SET FORTH HEREIN; (2) NEGLIGENCE, ALTERATION OR IMPROPER PRODUCT USE, INCLUDING USE WITH NON-COMPATIBLE DEVICES OR CHEMICALS; OR (3) REPAIR BY ANOTHER COMPANY OR PERSON THAN HARWIL.

ANY LAWSUIT RELATING TO THIS LIMITED EXPRESS WARRANTY MUST BE COMMENCED WITHIN ONE YEAR OF THE DATE THE LAWSUIT ACCRUES.

HARWIL provides NO WARRANTY and ASSUMES NO RESPONSIBILITY for corrosive attack on any material, component or design features associated with any of its products.

Corrosion resistance information listed in HARWIL specification sheets, information sheets and product brochures is solely for general background information. This information table has been compiled from literature published by various material suppliers and by equipment manufacturers who use these materials in their products. Inasmuch as these data are based on tests by entities over which HARWIL has no control, HARWIL DOES NOT GUARANTEE AND DOES NOT ACCEPT ANY RESPONSIBILITY FOR THE ACCURACY OF SUCH THIRD PARTY TESTING. When using the table, please remember that in any given case several factors such as concentration, temperature, degrees of agitation and presence of impurities influence the rate of corrosion. The information table is intended, in a general way, to rate materials for resistance to chemicals which contain their usual impurities and for types of equipment in common use. Ratings should be used only as a general tool to first approximation of your material requirements rather than as the final answer.

WHEN IN DOUBT, TEST MATERIALS BEFORE INSTALLATION.

AFTER INSTALLATION, FOLLOW UP WITH SCHEDULED PREVENTATIVE MAINTENANCE AND PERIODIC INSPECTION.