

# DATA SHEET

## LOW-PRESSURE SEAL MONITORS



**15–18 FRAME**

**PLC/PC Interface:  
with Indicator Light:**

**30664  
30664.120AC, 30664.240AC**

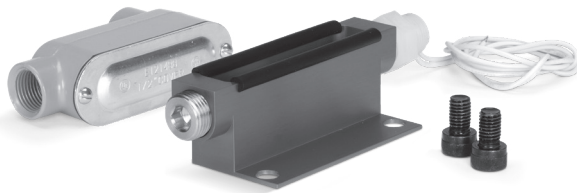
**25–28 FRAME**

**PLC/PC Interface:  
with Indicator Light:**

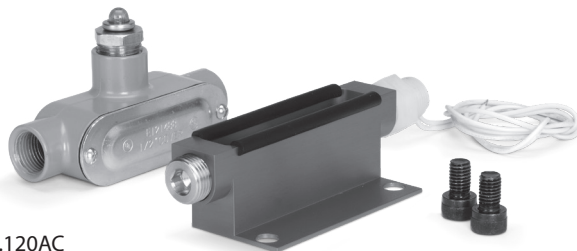
**30290  
30290.120AC**

**PLC/PC Interface:  
(Corrosion Resistant)**

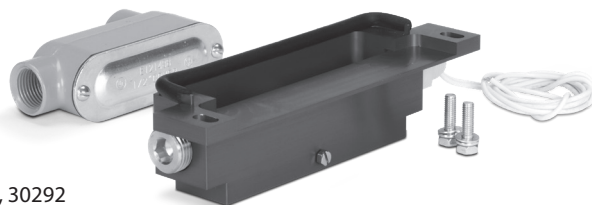
**30292**



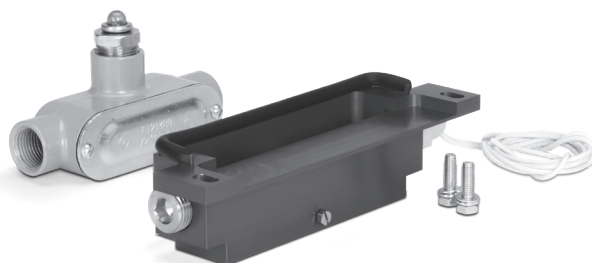
30664



30664.120AC  
30664.240AC



30290, 30292

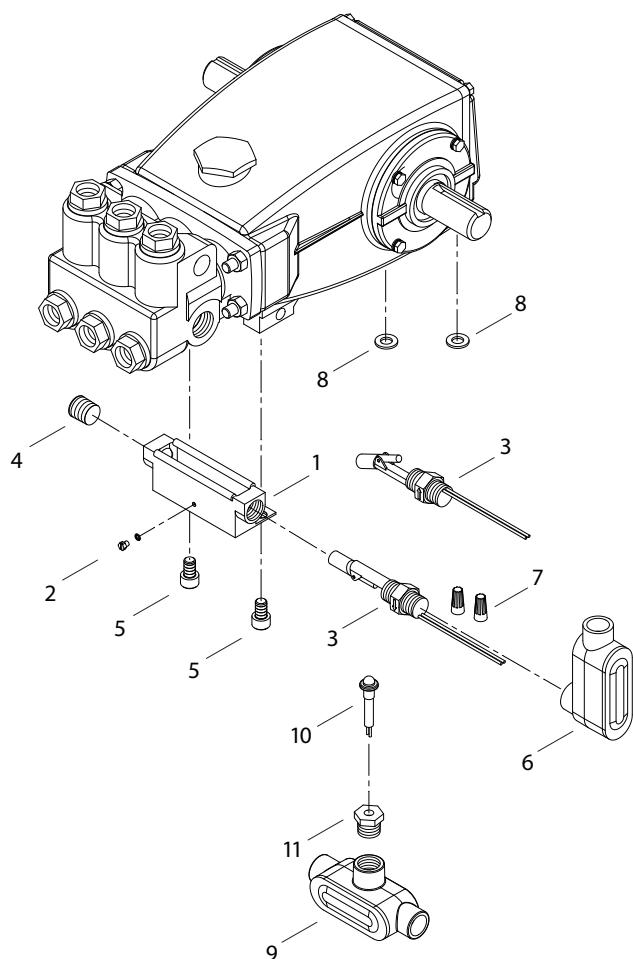


### FEATURES

- All Low-Pressure Seal Monitor models can easily connect to a PLC/PC interface, providing feedback when a fluid leak is detected.
- Early detection of fluid leaks aids preventative maintenance, reduces unplanned shutdowns, and enhances profitability.
- The electronic output can be easily configured for normally open (NO) or normally closed (NC) operation.
- Optional indicator light models notify maintenance personnel when pump seal replacement is necessary.

### SPECIFICATIONS

	U.S. Measure	Metric Measure
Maximum Switch Pressure	100 psi	7 bar
Switch Ratings	240V AC = 0.14A	240V AC = 0.14A
	120V AC = 0.28A	120V AC = 0.28A
	120V DC = 0.07A	120V DC = 0.07A
	12V DC = 0.28A	12V DC = 0.28A
Fitting (Float Switch)	½" NPT(M)	½" NPT(M)
Weight (30664 with elbow junction box)	0.75 lbs	0.34 kg
Weight (30290, 30292 with tee junction box/light)	1.15 lbs	0.52 kg



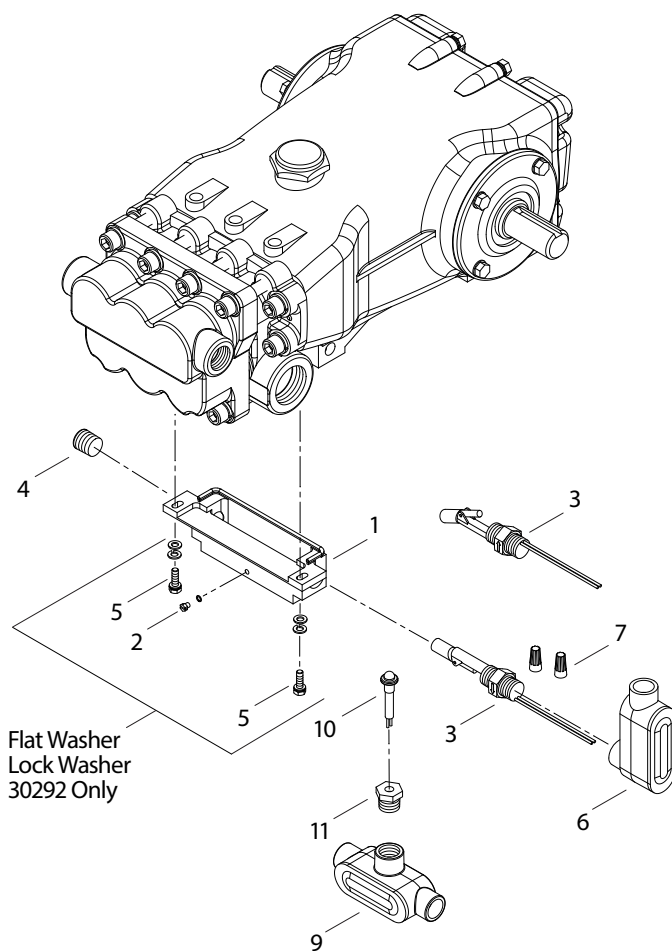
#### Model 30664

ITEM	PN	MTL	DESCRIPTION	QTY
1	—	AL	Leak Pan with Edging	1
2	—	BBNP	Plug (#10 - 32) with NBR gasket	1
3	30216	POP	Switch, Float	1
4	—	BB	Plug, Inlet (1/2" NPT[M])	1
5	30162	STL	Screw, HSH (M10 x 16)	2
6	—	AL	Box, Junction Elbow (1/2" NPT[F])	1
7	—	—	Wire Nut, Orange (600V)	2
8	126574	STZP R	Washer, Flat (M10)	2

#### Models 30664.120AC, 30664.240AC

9	—	AL	Box, Junction, Tee (1/2" NPT[F])	1
10	30596	—	Light, Amber, 120V AC	1
	31356	—	Light, Red 240V AC	1
11	—	BB	Bushing (1/2" NPT[M] x 3/8" - 24 UNF)	1

R components comply with RoHS Directive  
MATERIAL CODES (Not part of part number): AL=Aluminum  
BB=Brass BBNP=Brass/Nickel Plated POP=Polypropylene  
STL=Steel STZP=Steel/Zinc Plated



#### Models 30290, 30292

ITEM	PN	MTL	DESCRIPTION	QTY
1	—	AL	Leak Pan with Edging	1
2	—	BBNP	Plug (#10-32) with NBR gasket (30290)	1
	—	S	Screw (#10-32) with Silicone Gasket (30292)	1
3	30216	POP	Switch, Float	1
4	—	BB	Plug, Inlet (1/2" NPT[M]) (30290)	1
	—	S	Plug, Inlet (1/2" NPT[M]) (30292)	1
5	36179	SS	Screw, HHC SEMS (M6 x 25) (30290)	2
	36488	SS	Washer, Flat (30292)	2
	15849	S	Washer, Lock (30292)	2
6	—	AL	Box, Junction Elbow (1/2" NPT[F])	1
7	—	—	Wire Nut, Orange (600V)	2

#### Model 30290.120AC

9	—	AL	Box, Junction, Tee (1/2" NPT[F])	1
10	30596	—	Light, Amber, 120V AC	1
11	—	BB	Bushing, (1/2" NPT[M] x 3/8" - 24 UNF)	1

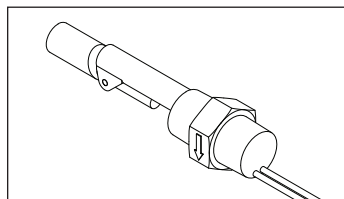
R Components comply with RoHS Directive  
MATERIAL CODES (Not part of part number): AL=Aluminum BB=Brass  
BBNP=Brass/Nickel Plated POP=Polypropylene S=304 Stainless Steel  
SS=316 Stainless Steel STCP= Steel/Chrome Plated

## INTERFACE SELECTION

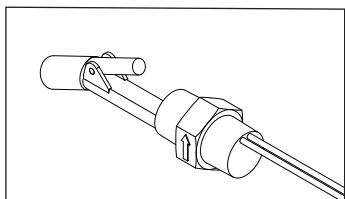
PART NUMBER	FITS THESE PUMP MODELS
30664	650, 660, 661C, 661D, 1050, 1051, 1051C, 1051D,
30664.120AC	1057, 1530, 1531, 1540E, 1541, 1560, 1570, 1580, 1730, 1731, 1810
30664.240AC	1810K, 1861, 1861K
30290, 30292	2510, 2511, 2520, 2520C, 2530, 2530E, 2531, 2537,
30290.120AC	2831, 2831K

## OPERATION

This low-pressure seal monitor is designed to collect water in a leak pan after water seeps past the low pressure seals. Leakage can be monitored either by PLC or PC interface, or by an indicator light. The float switch located in the leak pan can be configured in one of two positions 1) normally closed (NC), with arrow facing down or 2) normally open (NO) position with arrow facing up.



**Normally Closed**



**Normally Open**

We recommend a normally closed configuration when using the indicator light option. The light will remain on. When the light goes out, seals need to be replaced in the pump and/or the light is burnt out.

## ASSEMBLY OF LOW-PRESSURE SEAL MONITOR

All six (6) versions of the low-pressure seal monitors require assembly before being installed on the pump.

1. Apply thread sealant or PTFE thread tape on threads of inlet plug (Item 4). Thread ½" NPT(M) inlet plug into the leak pan port that meets your existing mounting configuration. Ensure black edging is positioned on top surfaces of leak pan.
2. Thread #10-32 drain plug (Item 2) with gasket into small hole on side of leak pan (Item 1).
3. Apply PTFE thread tape on threads of each end of float switch (Item 3). Thread float switch into open end of leak pan (Item 1) and tighten. Position arrow on hex nut body so it either faces up or down. Up indicates the normally open position and down indicates normal closed position.
4. On PLC/PC units, remove side cover with screws from junction elbow box (Item 6). String loose end of wires from float switch (Item 3) through junction elbow box (Item 6). Thread junction box onto threads of float switch (Item 3) and tighten. Ensure arrows on hex nut body are in the desired direction. String loose end of wires from PLC/PC through other port of box. Cut wires to size and wire nut together. Reposition cover and tighten screws.
5. On non-PLC/PC units (with lights), remove side cover with screws from junction tee box (Item 9). String loose end of wires from float switch (Item 3) through junction tee box (Item 9). Thread junction box onto threads of float switch (Item 3) and tighten with cover facing pump manifold. Ensure arrows on hex nut body are in the desired direction. Thread ½" NPT(M) bushing (Item 11) into junction tee box (Item 9). Thread amber or red light if 240V (Item 10) into bushing and hand tighten. Cut wires to size. Wire nut one end of light lead to float switch and the other to the power lead. Reposition cover and tighten screws.

## INSTALLATION OF ASSEMBLED UNITS

**Use 30664, 30664.120AC and 30664.240AC for pump models:**

650, 660, 661C, 661D, 1050, 1051, 1051C, 1051D, 1057, 1530, 1531, 1540E, 1541, 1560, 1570, 1580, 1730, 1731, 1810, 1810K, 1861, 1861K.

1. Pump mounted on rails: remove pump from rails. Do not remove pump oil pan. Position low-pressure seal monitor so leak pan opening is facing up and mounting holes line up with direct mounting tapped holes on bottom of pump. Thread in two screws (as supplied) (Item 5) and tighten. Reassemble pump to rails by using the first set of holes on rails.
2. Pump mounted on flat base (with no rails): remove mounting bolts. Do not remove pump oil pan. Position low-pressure seal monitor so leak pan opening is facing up and mounting holes line up with direct mounting holes on flat base. Place two washers (as supplied) (Item 8) on flat base at the two rear holes directly under pump. These washers will keep the pump level. Position pump over hole pattern on flat base. Tighten to flat base with existing bolts. (Do not use screws as supplied).

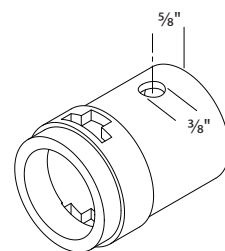
**Seal retainers must be retrofitted in order to use this low-pressure seal monitor for the pump models:**

2510, 2511, 2520, 2520C, 2530, 2530E, 2531, 2537, 2831 and 2831K

**Note:** Contact Cat Pumps to order modified seal retainer part numbers: 49788 and 49789.

**Follow the instructions below to modify your current seal retainers if serial number is prior to 3/11:**

1. Remove pump from rails or flat base.
2. Remove discharge and inlet manifolds from pump.
3. Remove seal retainers from each piston/plunger rod.
4. Ensure rear seal retainer (sleeve) is inside of seal retainer and ends are flush.
5. Measure ⅝" from non-stepped end and drill ⅜" diameter hole through one wall only of seal retainer.



6. Reinstall seal retainer on each piston/plunger rod with new hole facing down and towards the crankcase. New hole should line up directly over detector pan.
7. Reinstall inlet and discharge manifolds.

**Use 30290, 30290.120AC and 30292 for pump models:**

2510, 2511, 2520, 2520C, 2530, 2530E, 2531, 2537, 2831, 2831K

1. Pump mounted on rails: remove screws and pump oil pan. Position low-pressure seal monitor so leak pan opening is facing up and machined shelf surface is facing towards the manifold. Slide pump oil pan into machined area of low-pressure seal monitor. Align slotted mounting holes of monitor with mounting holes of oil pan. Thread in two screws as supplied (Item 5) while pushing monitor towards drive- end so it contacts crankcase, then tighten.

**Note:** On model 30292 add lockwasher and flatwasher.

2. Pump mounted on flat base (no rails): remove screws and pump oil pan. Position low-pressure seal monitor so leak pan opening is facing up and machined shelf surface is facing towards the manifold. Slide oil pan into machined area of low-pressure seal monitor. Align slotted mounting holes of monitor with mounting holes for oil pan. Thread in two screws as supplied (Item 5) while pushing monitor towards drive- end so it contacts crankcase, then tighten.

**Note:** On model 30292 add lockwasher and flatwasher.

MAINTENANCE

- Remove water from leak pan by removing drain plug (Item 2).
- Periodically inspect for leaks around plug (Item 4), drain plug (Item 2) and float switch (Item 3).
- Inspect wiring from float switch (Item 3) and junction box (Items 6 or 9).

TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	SOLUTION
Indicator light is out	• Power is out, low pressure seals worn or light bulb is burnt out	• Turn on power, replace seals or light
Leaking	• Worn drain plug O-ring, brass plug is loose, or float switch threaded incorrectly	• Replace O-ring, tighten plug, or reposition and use thread tape

⚠ CAUTIONS AND WARNINGS

All high-pressure systems require a primary pressure regulating device (e.g. regulator, unloader) and a secondary pressure relief device (e.g. pop-off valve, relief valve). Failure to install such relief devices could result in personal injury or damage to pump or property. Cat Pumps does not assume any liability or responsibility for the operation of a customer's high-pressure system. Read all CAUTIONS and WARNINGS before commencing service or operation of any high-pressure system. The CAUTIONS and WARNINGS are included in each Service Manual and with each Accessory Data sheet. CAUTIONS and WARNINGS can also be viewed online at [www.catpumps.com/dynamic-literature/cautions-and-warnings](http://www.catpumps.com/dynamic-literature/cautions-and-warnings) or can be requested directly from Cat Pumps.

WARRANTY

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