Temprite®

The more you know, the more you spec' Temprite

Maintenance Manual

Installation, Service and Adjustments

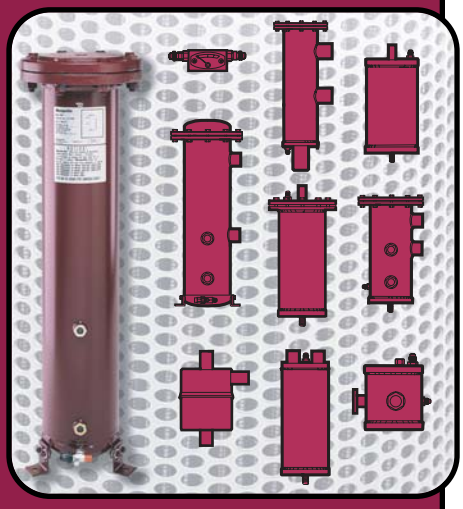
Temprite®

Always use Genuine Temprite parts.

GENUINE Temprite® PRODUCTS

Check for the Genuine Label.

Note: *Some end caps are not big enough for a logo. They are stamped with "Temprite".*



Tips

- Measure and record the initial pressure drop across filter for future reference.
- Pressure difference is your first indication that service is needed.
- When checking the differential pressure across the filter make sure all compressors are running fully loaded.
- If you are not separating oil, first check the pressure difference:
  - If pressure differential is above 13 PSIG/0.9 Bar filter is clogged.
  - If no pressure differential, the O-Ring has probably dislodged.
- When replacing the filter, check to see if:
  - Before removing filter see if the O-Ring at the base of the filter is sticking out anywhere, and if filter is centered on the base plate.
  - There is oil in the bottom of the separator (non-reservoir style).
  - See if float is suspended (floating on the oil).
- The filter may not appear dirty but particles below 60 micron are invisible to the naked eye.
- If the separator has excess amounts of oil, the oil return orifice may be clogged.
- With the system open you can back-flush the oil return by applying oil pressure backwards and lifting up float ball.
- When installing the filter make sure it is centered on the base plate.
- If pressure differential across the filter appears in the normal range and you are not getting oil:
  - Check separator's oil return fitting if there is no oil.
  - Relieve pressure, remove drain plug and measure the amount of oil removed. It should be around the pre-charge amount.
  - If there is excessive oil and the float ball looks good, the holes in the float arm may be worn or the orifice may be clogged.
  - To get by until you get a replacement float assembly, install a fitting in the drain port and connect it to the inlet service valve on the oil reservoir.
  - If there is no oil, or the oil is around the pre-charge amount, replace the filter.

Note

The o-ring is glued to the filter for installation only. During operation the glue will dissolve. The o-ring is designed to dislodge at or around 30 PSIG/2 Bar difference to protect the filter.

Thank You for Purchasing Temprite®

The following pages are the maintenance and adjustments for ***Temprite®*** products.

You may not be aware that a ***Temprite® Coalescent Oil Separator*** is completely different from separators of years past. They are unique in that they not only separate the oil at 98.5% efficiency; they also filter out harmful particles that clog TXVs, jam valves and wear away at compressors. The separator is also 98.5% efficient down to 20% of rated load. This means as you cycle compressors off, or they are unloaded, the separator keeps separating the oil. No more nuisance oil trips in the winter months. Since the separator removes 98.5% of the oil there is less oil in the system. Excessive oil coats the inside of the condenser's and evaporator's tubing thus impeding heat transfer. A ***Temprite®*** separator will save you money and pay for itself.

For this reason you may replace the filter inside the oil separator more often after start up. This is because the filter removes solid particles down to 0.3µm. Once the system is clean, the filter should be replaced when the differential pressure reaches 13 PSIG/0.9 Bar or after a compressor replacement, remodel, or a major maintenance problem.

For retro-fits, compressor changes, or conversions we recommend starting out with a Clean up™ filter. This will remove the major particles, reduce the number of filters needed, and increase the time between filter changes.

Blown "O" rings are a sign the filter is plugged. When checking the pressure drop make sure all the compressors are fully running. This will insure you are reading the proper pressure drop. It is a good idea to note the initial pressure drop for future reference.

Temprite Genuine® parts can be purchased at all Refrigeration Wholesalers.

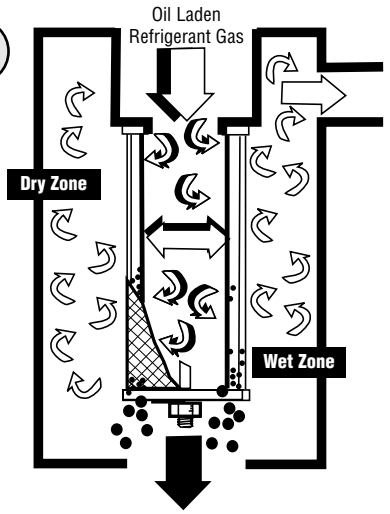
Please visit our web site www.temprite.com for additional information.

Thank you again

Q Why Coalescent Oil Separators?

We, at Temprite, have one goal in mind when we conceptualize our products; to design and manufacture the most efficient refrigeration components available, worldwide. We realize that with refrigeration design, the sum of the components equals the overall efficiency of the system. When you call out Temprite products, you can feel confident that you're specifying an engineered product designed to enhance the performance of the total system.

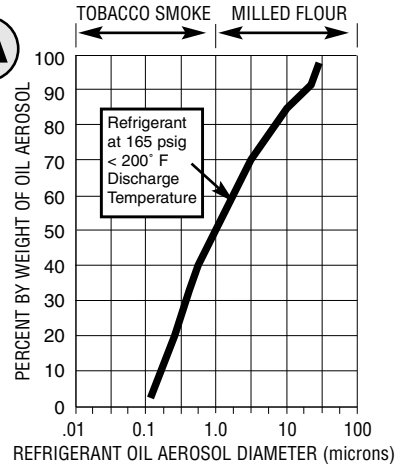
A



▲ Oil Separator Cross Section

Atomized oil present in the discharge gas enters the interior of the filter flowing from the inside of the filter to the outside. Droplet sized oil over 100 microns (100 µm) are generally separated here by expansion of gases.

A



▲ Typical Aerosol Distribution

This graph illustrates micron particle sizes from .01 to 100. Refrigerant oils in aerosol form typically range from less than 0.1 to 40 microns in size. The majority of aerosols in the discharge gas are in the 0.4 to 10 micron range with greater than 50% of the aerosols less than 1 µm in size.

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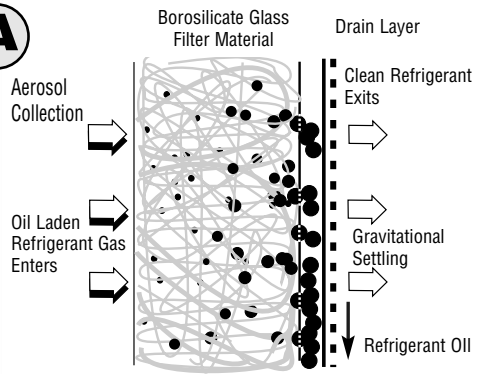
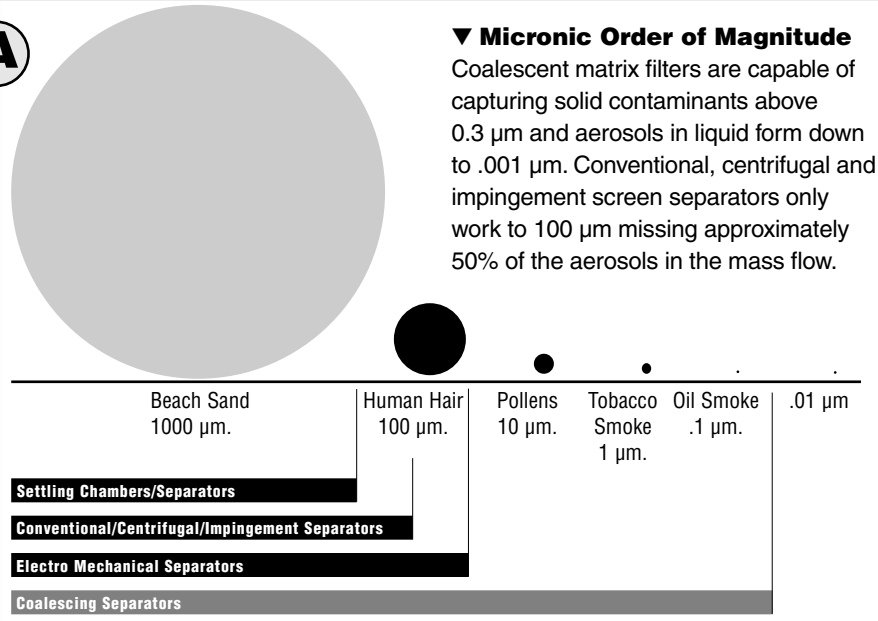


◀ Filter Cross Section

As aerosol sized gas enters the borosilicate glass matrix it vibrates from side to side colliding with other molecules and agglomerating. Large oil droplets are moved to the outside of the filter and enter the gravitational drain layer.

A



▼ Micronic Order of Magnitude

Coalescent matrix filters are capable of capturing solid contaminants above 0.3 µm and aerosols in liquid form down to .001 µm. Conventional, centrifugal and impingement screen separators only work to 100 µm missing approximately 50% of the aerosols in the mass flow.

Temprite

Clean-Up Filter Instructions

Clean-Up Filter

Cleaning up after a compressor burn-out is easy with Temprite's Clean-Up Filter. The "Clean-Up" filter is designed for more "dirt loading" than our Hi-Efficiency 920 Series filters. It removes dirt and contaminants to 3 microns. Just install a Clean-Up filter in a Temprite 920 Series Oil Separator along with the Model 224 Pressure Differential Indicator (PDI). When the PDI stays below 13 PSIG/0.9 Bar – your system is clean. Then switch-out the "Clean-Up" filter with Hi-Efficiency 920 Series filter and you'll have oil separation to 98.5%, saving you money and the rack's owner Kw.

Remember the following:

- When using a Pressure Differential Indicator (PDI), check and change filters at 13 PSIG/0.9 Bar. Pressure drop beyond this point may rupture the filter.
- The Clean-Up filter will remove dirt and contaminants to 3 microns. In contrast, the standard Temprite Hi-Efficiency filter will pick up solid contaminants to 0.3 microns…ten times smaller. Monitor both the Clean-Up Filter and the Hi-Efficiency Filter to be sure they don't exceed 13 PSIG/0.9 Bar.
- Oil separation with the Clean-Up Filter varies based on media viscosity, flow velocity, particulate size, etc. When the PDI stays below 13 PSIG/0.9 Bar, change to a Hi-Efficiency filter.

Pre-Charge Oil Levels for All Oil Separators and Reservoirs

Separator Oil Charges								
Models							US	Metric
501	502	503	504	505			16 oz	475 ml
506	507						20 oz	590 ml
600	601	602	603	604	605		12 oz	355 ml
606	607						29 oz	850 ml
900	900-1	901	902	903			15 oz	445 ml
904	905						16 oz	475 ml
922	923						15 oz	445 ml
924	925						16 oz	475 ml
926	927	928					34 oz	1 Lit
930							85 oz	2.5 Lit

Models								US	Metric
922 R	923 R							77 oz	2.27 Lit
924 R	925 R							109 oz	3.22 Lit
926 R	927 R							1.8 Gal	6.7 Lit
928 R								2.0 Gal	7.55 Lit
930 R								5.7 Gal	21.25 Lit

Oil Reservoir Oil Charge								
Models	Center of Bottom S/G		Center of Top S/G		Top			
No.	US gal/oz	Metric	US gal/oz	Metric	US gal/oz	Metric		
47115	50 oz	1.5 Lit	2.6/338	10 Lit	3/388	11.5 Lit		
47082	50 oz	1.5 Lit	1.7/220	6.5 Lit	2.1/270	8 Lit		
47058	50 oz	1.5 Lit	1.2/146	4.3 Lit	1.6/196	5.8 Lit		

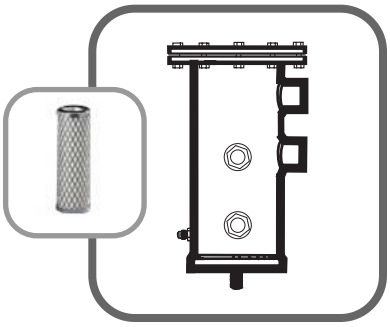
Check oil level on new installations frequently.

Torque Specifications for All Accessible Series Oil Separators

Flange bolt Torque Specifications			
Model	**Bolt Size**	**Torque (ft-lbs)**	**Torque (Nm)**
501 – 507	5/16″ - 18	18 – 20 ft -lbs	24 – 27 Nm
922, 923/R	5/16″ - 24	20 – 22 ft – lbs	27 – 30 Nm
924, 925/R	5/16″ - 24	20 – 22 ft – lbs	27 – 30 Nm
926, 927/R	5/16″ - 24	20 – 22 ft – lbs	27 – 30 Nm
928/R	3/4″ - 10	50 – 55 ft – lbs	68 – 75 Nm
930/R	7/8″ - 9 (w/nuts)	70 – 75 ft – lbs	95 – 102 Nm
930/R	3/4v - 16 (w/o nuts)	50 – 55 ft – lbs	68 – 75 Nm
Bottom flange bolt Torque Specifications			
924 - 930/R	5/16″ - 18	18 – 20 ft -lbs	24 – 27 Nm

FILTER NUT

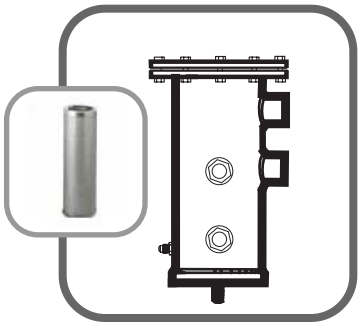
1. Tighten filter nut until you can not turn the filter by hand.
2. Tighten filter nut an additional 1/2 to 3/4 turn.
3. Re-attach top plate to flange by first, finger tightening nuts on bolts with lock washers, in between nut and flange face. Start with any given bolt, and gradually tighten firmly. Tighten in “opposite bolt” pattern (Alternating Star) until properly torqued.
4. Check oil level on new installations frequently.



All 920/930 Series, All 920R/930R Series, Accessible Coalescent Oil Separators

The 920 Series coalescent oil separators have an internal filter, installed at the factory. The second filter is to be used as a replacement in 24 to 48 hours. Remember, Temprite coalescent filters will pick up all dirt and particulates down to .3 microns. Typical filter/driers only catch 50 microns or larger.

1. Isolate oil separator from system.
2. Recover or recycle refrigerant from oil separator.
3. **Be sure separator is depressurized.**
4. Unbolt flange bolts and nuts. Put aside with washers, to be reused.
5. Carefully remove top plate.
6. Remove filter retaining nut and sealing washer.
7. Remove old filter and “O” ring from bottom of old filter.
8. Make sure filter sealing surface inside separator is smooth and clean of dirt.
9. Dispose of old oil properly.
10. Install new genuine Temprite replacement filter.
    - 10.1 Apply a light film of oil to the “O” ring on new filter and insert new filter into the separator so it is centered and the “O” ring seats flush on sealing surface.
    - 10.2 Re-attached new sealing washer and filter nut.
    - 10.3 Tighten filter nut until filter will not turn.
    - 10.4 Tighten filter nut an additional 1/2 to 3/4 turn.
11. Thoroughly remove old gasket or “O” ring from groove. Be careful not to scratch the steel surface.
12. For 930/930R, select correct “O” ring to fit in groove, discard extra “O” ring.
13. Replace flange O-ring or gasket in groove dry, and then apply oil.
14. Pre charge the separator (see nameplate for quantity) with the correct type of oil.
15. On R models, fill to top sight glass (see nameplate for quantity) with the correct type of oil.
16. Re-attach top plate to flange by first finger tightening nuts on bolts with lock washers, in between nut and flange face. Start with any given bolt, and gradually tighten firmly to 20-22 ft-lbs/27-30 Nm of torque for models 922-927's, 50-55 ft-lbs/68-75 Nm for 928's and 70-75 ft-lbs/95-102 Nm(w/nuts) or 50-55 ft-lbs/68-75 Nm (no nuts) for 930’s. Tighten in “opposite bolt” pattern.
17. Evacuate oil separator and interconnecting lines.
18. Return separator to operation, slowly open the isolating valves.
19. Monitor pressure drop and oil levels frequently.
20. Continue to replace filters until the pressure drop stays below 13 PSID/0.9 Bar.



All 920/930 series, All 920R/930R Series, Accessible Coalescent Oil Separators

Cleaning-Up after a compressor burn-out is easy with Genuine Temprite® Clean-Up Filters. The Clean-Up Filter is designed for more "dirt loading" than our Standard High-Efficiency 920/930 Series Filter. Just install a Clean-Up Filter along with our Pressure Differential Indicator (PDI). When the PDI stays below 13 PSID/0.9 Bar — your system is clean. At this time replace the Clean-Up Filter with our Standard High-Efficiency 920/930 series Coalescing filter and you'll have separation to 98.5%, at .3 microns… saving you time and the rack owners kW.

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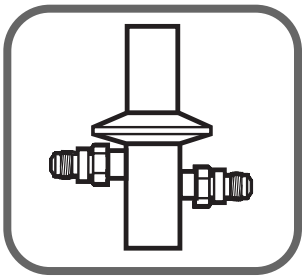
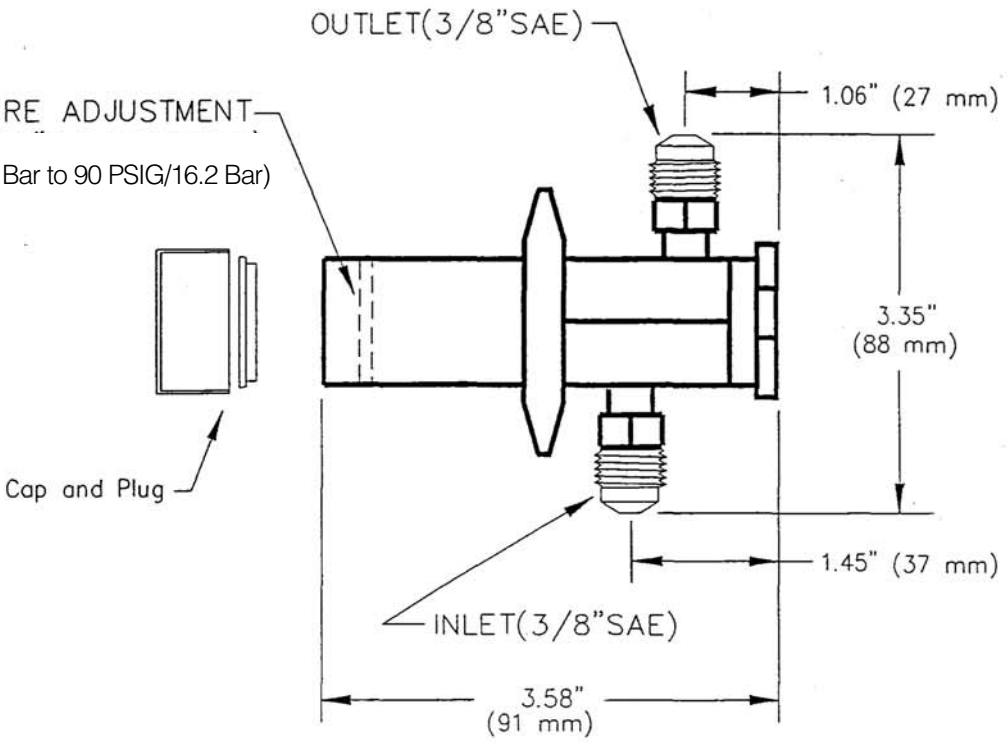
1. Isolate oil separator from system.
2. Recover or recycle refrigerant from oil separator.
3. **Be sure separator is depressurized.**
4. Unbolt flange bolts and nuts. Put aside with washers, to be reused.
5. Carefully remove top plate.
6. Remove filter retaining nut and sealing washer.
7. Remove old filter and "O" ring from bottom of old filter.
8. Make sure filter sealing surface inside separator is smooth and clean of dirt.
9. Dispose of old oil properly.
10. Install new genuine Temprite replacement filter.
    - 10.1 Apply a light film of oil to the "O" ring on new filter and insert new filter into the separator so it is centered and the "O" ring seats flush on sealing surface.
    - 10.2 Re-attached new sealing washer and filter nut.
    - 10.3 Tighten filter nut until filter will not turn.
    - 10.4 Tighten filter nut an additional 1/2 turn.
11. Thoroughly remove old gasket or "O" ring from groove. Be careful not to scratch steel surface.
12. For 930/930R select correct "O" ring to fit in groove, discard extra "O" ring.
13. Replace flange O-ring or gasket in groove dry, and then apply oil.
14. Pre charge the separator (see nameplate for quantity) with the correct type of oil.
15. On R models fill to top sight glass (see nameplate for quantity) with the correct type of oil.
16. Re-attach top plate to flange by first finger tightening nuts on bolts with lock washers, in between nut and flange face. Start with any given bolt, and gradually tighten firmly to 20-22 ft-lbs/27-30 Nm of torque for models 922-927's, 50-55 ft-lbs/68-75 Nm for 928's and 70-75 ft-lbs/95-102 Nm(w/nuts) or 50-55 ft-lbs/68-75 Nm (no nuts) for 930's. Tighten in "opposite bolt" pattern.
17. Evacuate oil separator and interconnecting lines.
18. Return separator to operation, slowly open the isolating valves.
19. Monitor pressure drop and oil levels frequently.
20. Continue to replace filters until the pressure drop stays below 13 PSID/0.9 Bar. Then replace the Clean-Up filter with a Standard High- Efficiency Filter.



A-7 Oil Pressure Reducing Valve

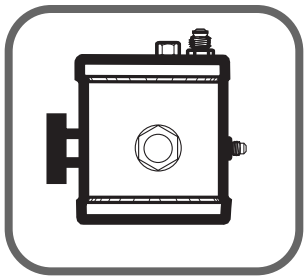
The A-7 Oil Differential valve is a constant outlet pressure regulator, and is used in high pressure oil systems, to reduce the oil pressure to the oil level controls. On split-suction group systems, one A-7 is needed for each group.

1. The A-7 is installed in the oil line between the oil reservoir and oil level control.
2. An A-7 is required for each compressor suction group if the system has a split suction header, thus maintaining two or more suction temperatures.
3. A satellite compressor may have a much lower suction pressure than the other multiplexed compressors and may need its own reducing valve.
4. Multi-stage compressors may have a higher crankcase pressure than suction pressure.
5. It is important to be aware of the maximum crankcase pressure. Set the A-7 Pressure Reducing Valve to 5-10 PSIG/0.3-0.7 Bar above the maximum compressor crankcase pressures.
6. Some system transitions may raise suction pressure above the normal running pressure, such as after defrost cycles.



Turn in (clockwise) to increase pressure.
Turn out (counter-clockwise) to decrease pressure.
Approximately 7 psi per turn.
Factory set at 40 PSIG ± 2/ 2.77 Bar +- 0.14

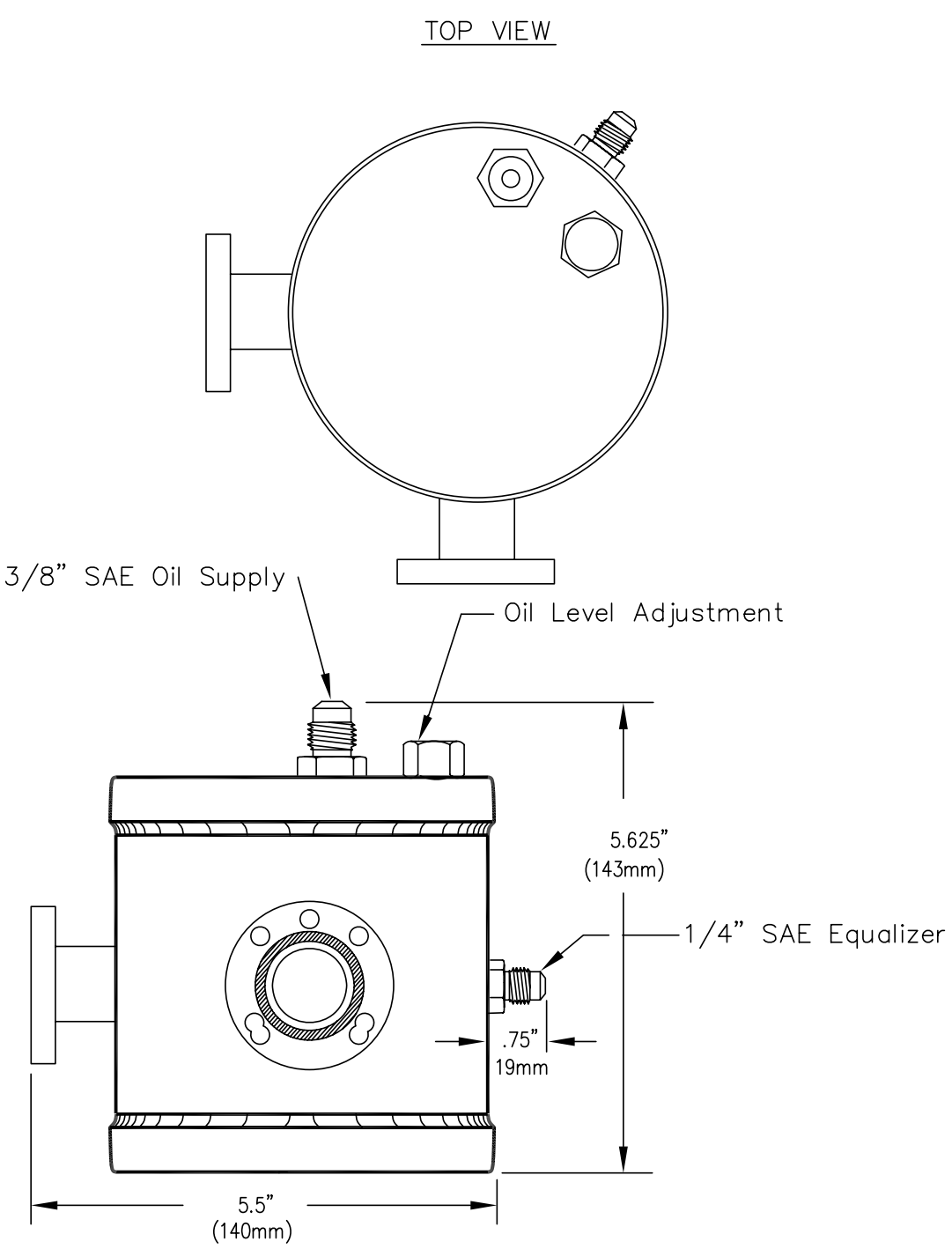
Temprite		
DESCRIPTION	EXPANSION VALVE	
APPROVED		
ENGR.	PART #67050000	
DATE 4-2-98		MODEL
DR. BY KSD		DRAWING NO. A7VALVE



Mechanical Oil Regulators (OLC) 20-590 Adjustable, 25-590 Non-Adjustable

There are two types of mechanical oil regulators, Adjustable and Non-Adjustable. Oil Level Controls are for multiplexed rack/pack systems. They are design to keep a constant flow of oil to the compressor and to keep it's crankcase at the specified level. The vast majority of Temprite 920 "R" Series separator/reservoir users regulate the oil back to the Oil Level Control by adjusting the A-7 Pressure Reducing Valve to the pressure they desire. Please be aware of your system's requirements.

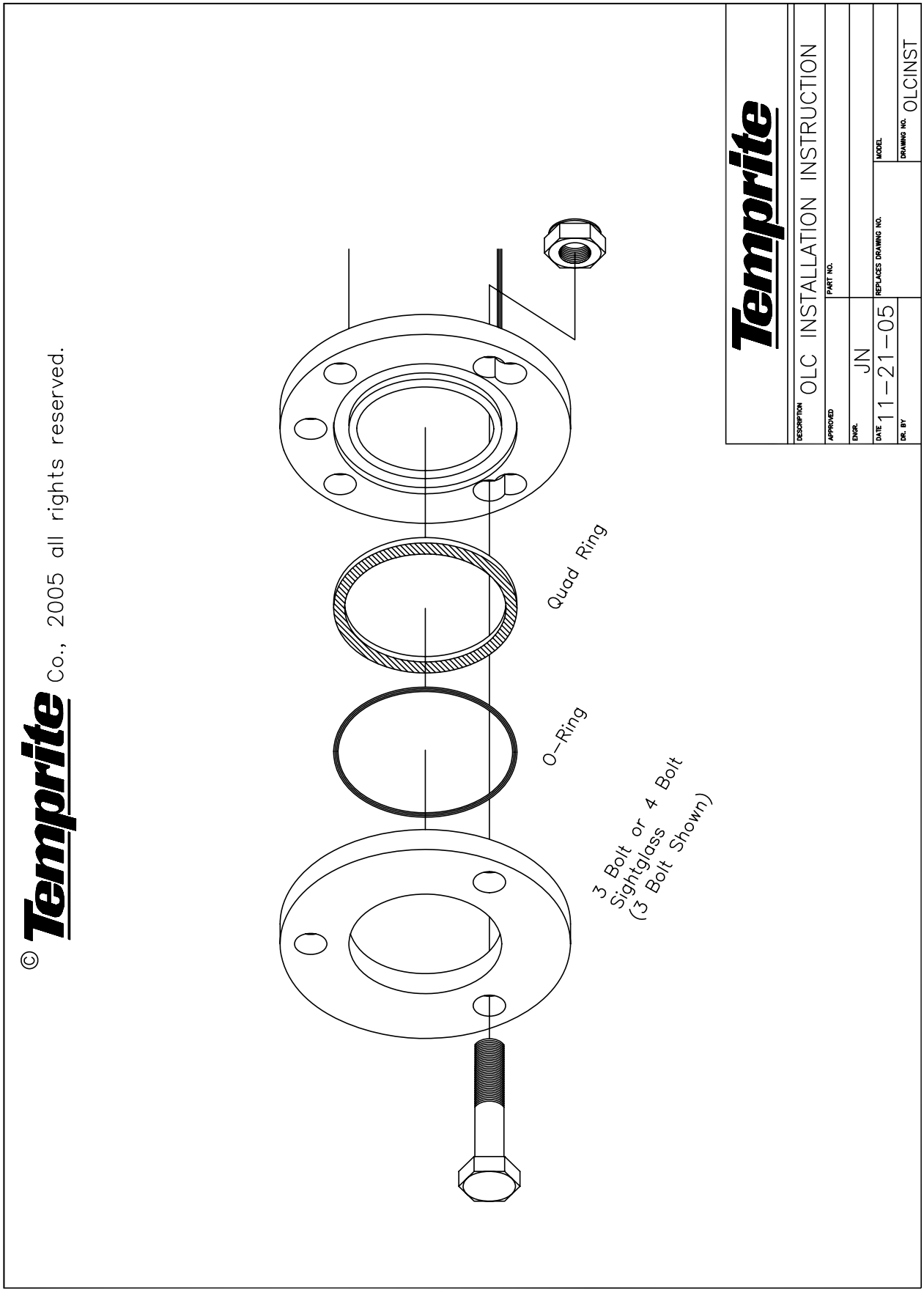
1. Shut off power to the compressor.
2. Isolate compressor and oil separator feed from system.
3. **Be sure separator is depressurized.**
4. Recover or recycle refrigerant from compressor.
5. Remove sight glass from desired side of the compressor. Save bolts and O-ring.
6. Mount OLC with previously removed bolts and O-ring.
7. Clean sight glass and install with "O ring" groove toward OLC flange with 1 O-ring, 1 Quad O-ring, bolts and nuts provided. See page 14.
8. Tie into oil return line from separator or oil reservoir. Install shut off valve on OLC's oil inlet.
9. The oil equalizer connection allows the oil level control to be interconnected, permitting oil transfer between a series of compressors. This transfer is sometimes necessary due to sudden increases in oil level from oil returning through the suction line. It may also be necessary to equalize pressure between running compressors and compressors that are off. This prevents oil from migrating to those compressors that are off.
10. Evacuate compressor and interconnecting lines.
11. Open any and all isolating valves.
12. Start up compressor and adjust the oil level to compressor manufacturer's guide lines.
13. The OLC is shipped with the level, factory set to about 1/2 Sight Glass at 30 PSIG/2 Bar pressure differential. For adjustable models (20-590), each turn (360 degrees) of the adjusting screw will change the level approx. 0.050" or 1.27mm. The screw can be turned about 9-1/2 full turns from top to bottom. DO NOT force the screw beyond these limits. For non adjustable models (25-590), adjust the differential pressure.
14. After making a level adjustment, wait for the oil level in the system to normalize. The time it takes for the level to normalize depends on the size of the system and the pressure differential. Generally, the lower the pressure differential, the longer it will take.



Model	Oil Differential Pressure
20–590	5–90 psi (.35–6.2 bar)

Temprite

DESCRIPTION: OIL REGULATOR – Adjustable 5–90 PSI		
APPROVED	PART NO. 020590000	
ENGR. JN		
DATE 11–18–03		MODEL
DR. BY		DRAWING NO. 20–590


Temprite
DESCRIPTION OLC INSTALLATION INSTRUCTION
APPROVED
PART NO.
ENGR. JN
DATE 11-21-05
REPLACES DRAWING NO.
MODEL
DR. BY
DRAWING NO. OLCINST
Quad Ring
O-Ring
3 Bolt or 4 Bolt Sightglass (3 Bolt Shown)
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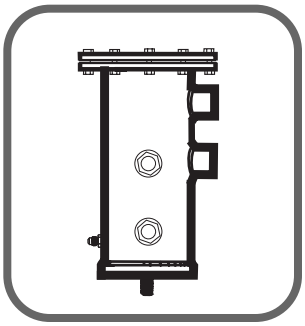

All 920/930 Series, All 920R/930R Series, Accessible Coalescent Oil Separators

The 920 Series coalescent oil separators have an internal filter, installed at the factory. The second filter is to be used as a replacement in 24 to 48 hours. Remember, Temprite coalescent filters will pick up all dirt and particulates down to 0.3 microns. Typical filter/driers only catch 50 microns or larger.

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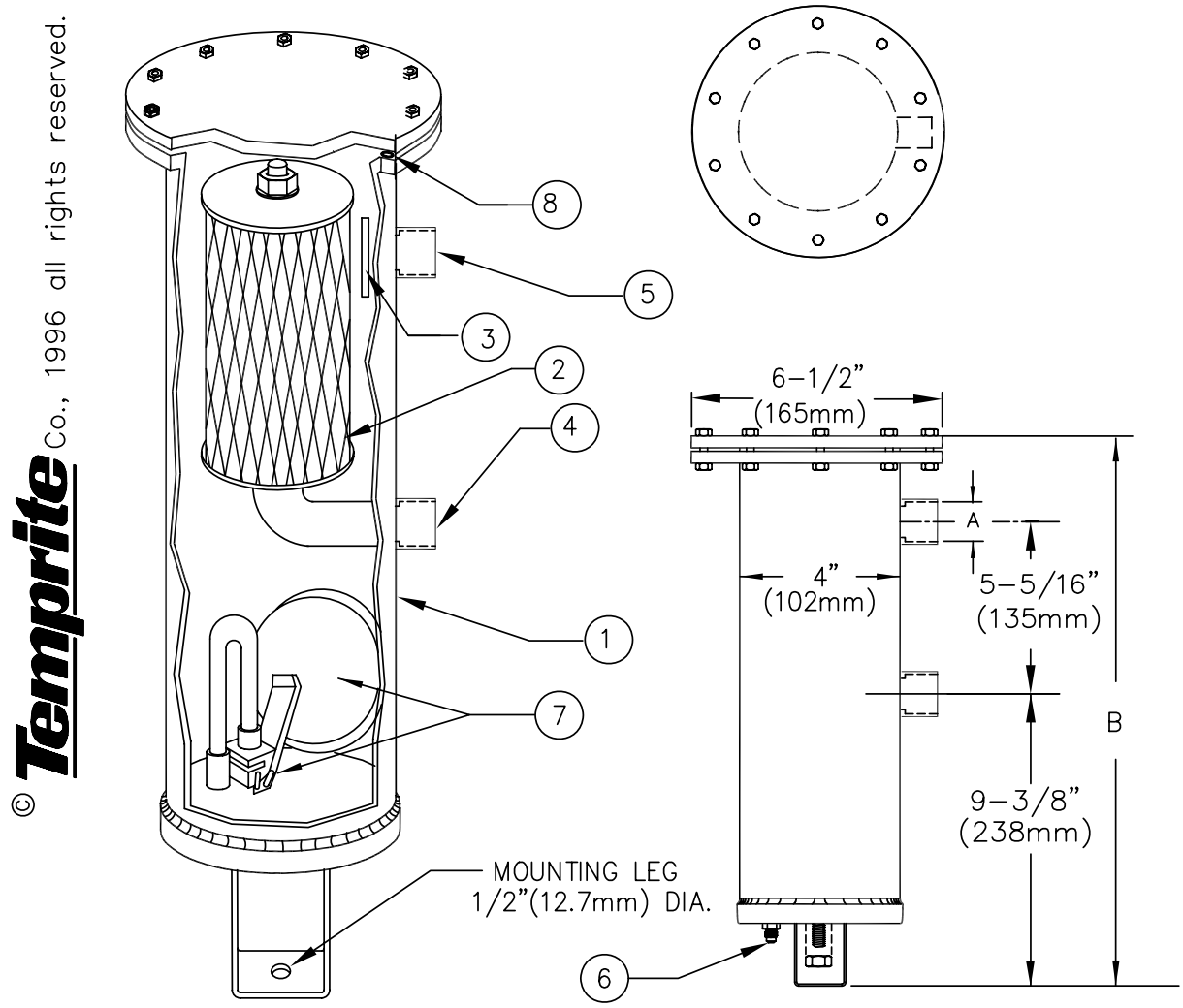
1. Locate the separator in a warm, draft free area, or wrap separator with insulation.
2. If using a low pressure oil level control with an “R” model separator, a pressure reducing valve is required on multiplexed compressors. (Temprite A-7 Valve)
3. Install the separator in a vertical position, close to the compressor, in between compressor and condenser, upstream (before) any bypass piping.
4. Special consideration should be given to the location so as not to impede future filter replacement or service.
5. Clamp and support the separator and piping properly to minimize vibration.
6. Discharge lines into and out of the separator must be the same size as the separator connection size.
7. Install pressure taps in these lines for reading pressure drop across the separator or installing a Temprite Pressure Differential Indicator (PDI).
8. Charge the separator with the recommended amount of oil through the outlet connection before installing or starting the system.
9. Keep the separator cool when brazing.
10. If the oil separator is lower than the condenser, take precautions to keep liquid refrigerant out of the separator.
11. Frequently check oil level and pressure drop across the separator on new installations.
12. Change the filter after an initial 24 to 48 hours of operation or if the pressure drop across the separator exceeds 13 PSIG/0.9 Bar
13. Change the filter if dirt loading causes a pressure drop of 13 PSIG/0.9 Bar bar differential across the separator.
14. After a compressor burn-out, use a Temprite Clean-Up filter. Monitor the pressure drop. Install a Temprite standard filter when the pressure drop across the separator stays below 13 PSIG/0.9 Bar.
15. For “R” models, the oil level should be maintained between the two (2) sight glasses.



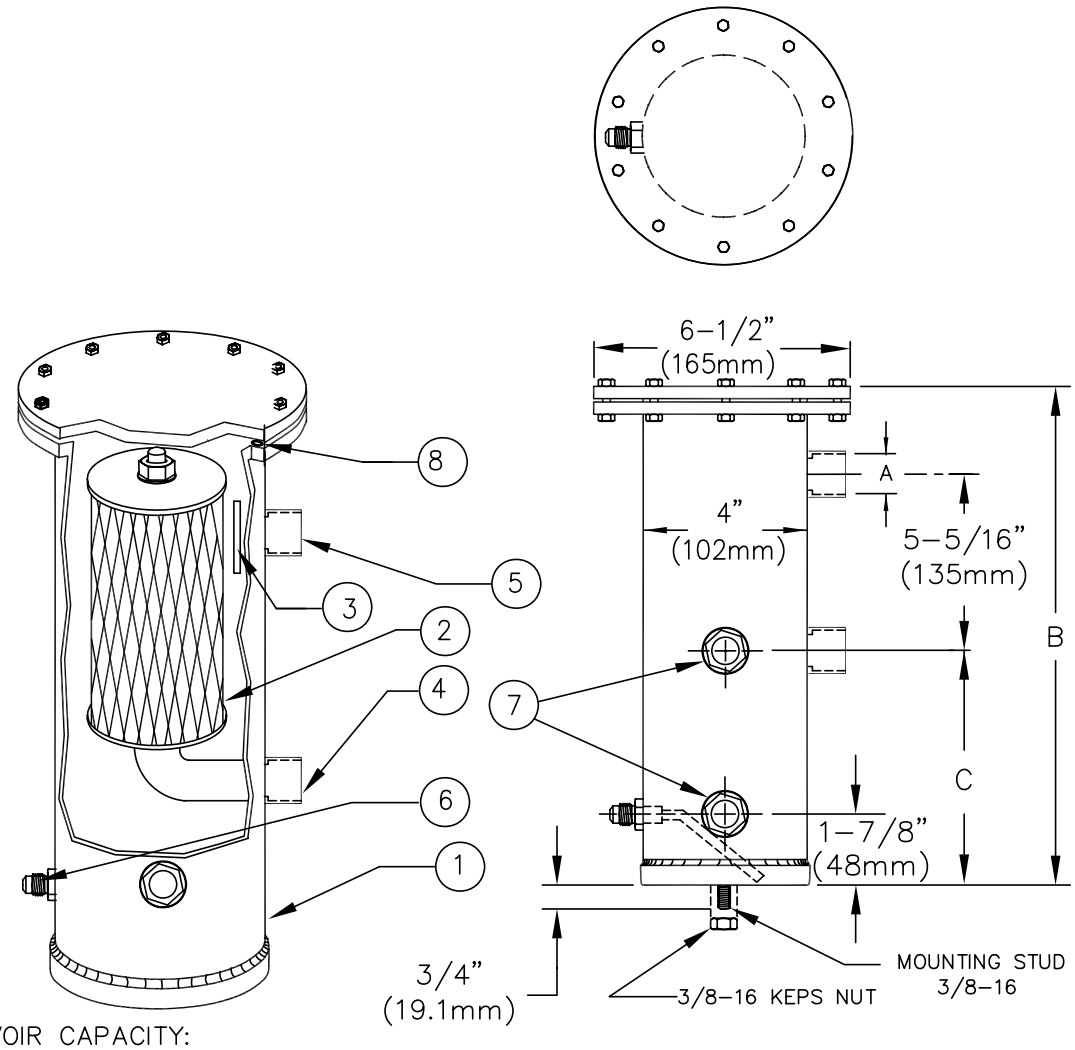
MODEL	A	B
922	5/8"(15.9mm)	17-1/4" (438MM)
923	7/8"(22.2mm)	17-1/4" (438MM)

ITEM	DESCRIPTION
8	GASKET
7	FLOAT BALL ASSEMBLY
6	OIL RETURN -1/4"SAE
5	OUTLET
4	INLET
3	BAFFLE
2	FILTER
1	SHELL

BILL OF MATERIAL

Temprite

DESCRIPTION: ACCESSIBLE OIL SEPARATOR		
APPROVED: TJS		
ENGR.: JN		
DATE: 3-03		MODEL: 922-923
DR. BY:		DRAWING NO.: 922-3A



RESERVOIR CAPACITY:
BTM SIGHT GLASS: 12 oz./.35 liters
TOP SIGHT GLASS: 77 oz./2.27 liters

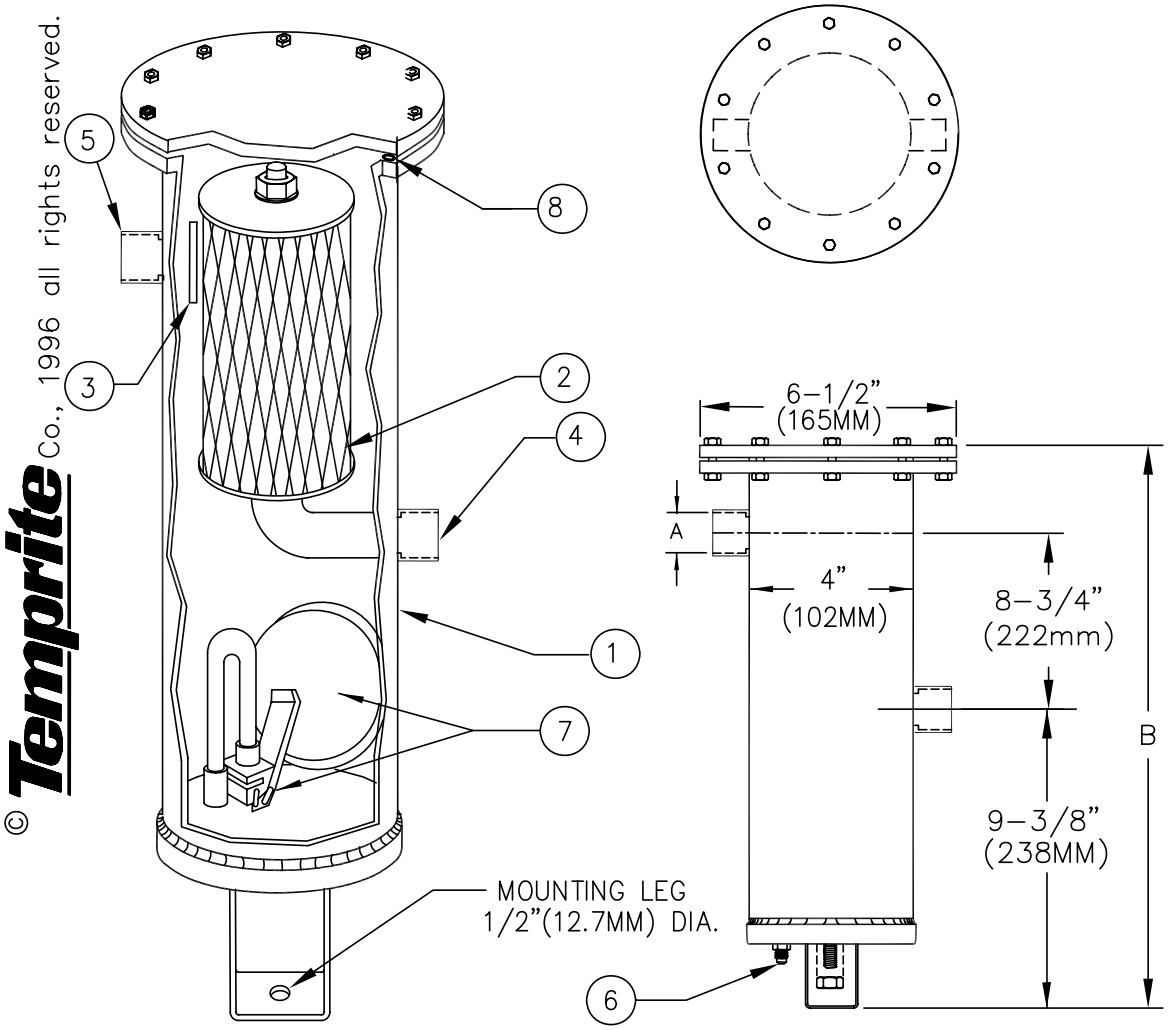
MODEL	A	B	C
922R	5/8"(15.9mm)	19-1/2" (495mm)	11-5/8" (295mm)
923R	7/8"(22.2mm)	19-1/2" (495mm)	11-5/8" (295mm)

ITEM	DESCRIPTION
8	GASKET
7	SIGHT GLASS
6	OIL RETURN -1/4"SAE
5	OUTLET
4	INLET
3	BAFFLE
2	FILTER
1	SHELL

BILL OF MATERIAL

Temprite

DESCRIPTION	ACCESSIBLE OIL SEPARATOR W/RESERVOIR	
APPROVED TJS		
ENGR. JN		
DATE 4-03		MODEL 922R-923R
DR. BY		DRAWING NO. 922R-3R



MODEL	A	B
924	1-1/8"(29MM)	21-5/8" (549MM)
925	1-3/8"(35MM)	21-5/8" (549MM)

ITEM	DESCRIPTION
8	GASKET
7	FLOAT BALL ASSEMBLY
6	OIL RETURN -1/4"SAE
5	OUTLET
4	INLET
3	BAFFLE
2	FILTER
1	SHELL

BILL OF MATERIAL

Temprite

DESCRIPTION: ACCESSIBLE OIL SEPARATOR

APPROVED: TJS

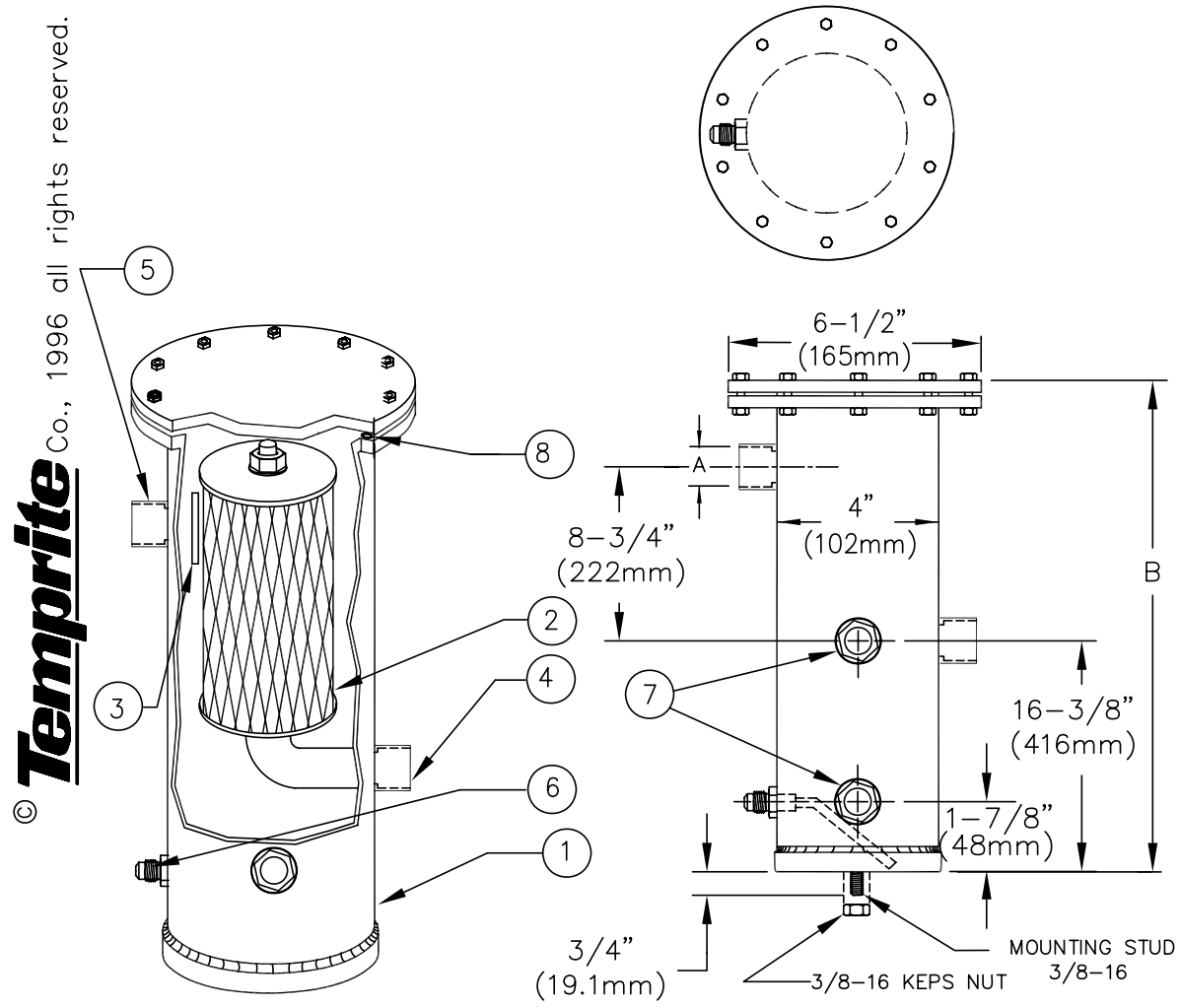
ENGR.: JN

DATE: 3-03

DR. BY:

MODEL: 924-925

DRAWING NO.: 924-925



RESERVOIR CAPACITY:
BTM SIGHT GLASS: 12 oz./.35 liters
TOP SIGHT GLASS: 109 oz./3.22 liters

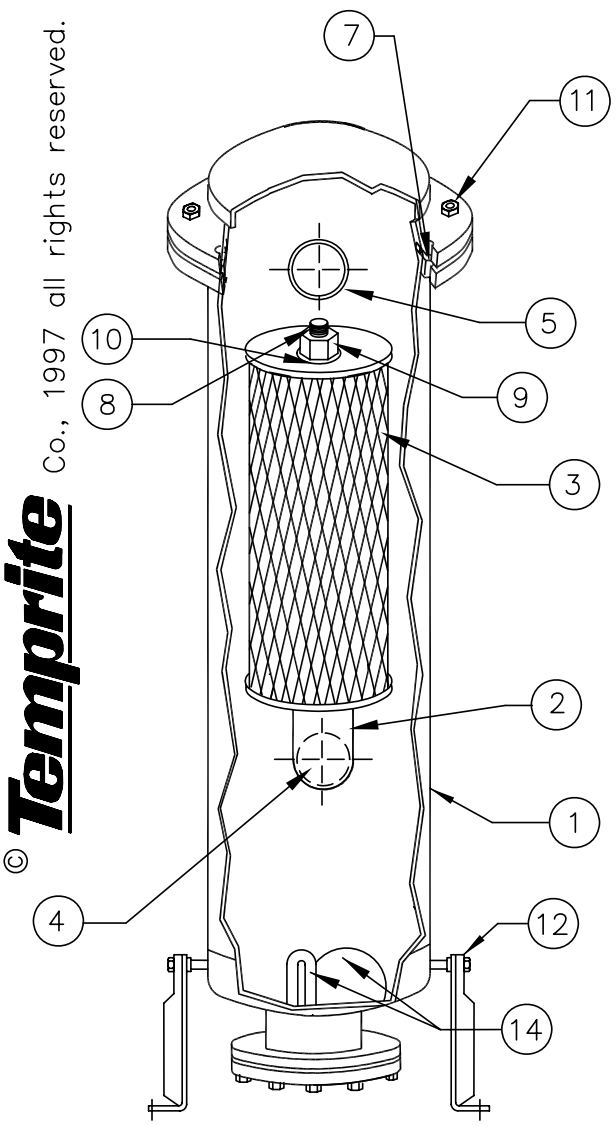
MODEL	A	B
924R	1–1/8"(29MM)	28–5/8" (727mm)
925R	1–3/8"(35MM)	28–5/8" (727mm)

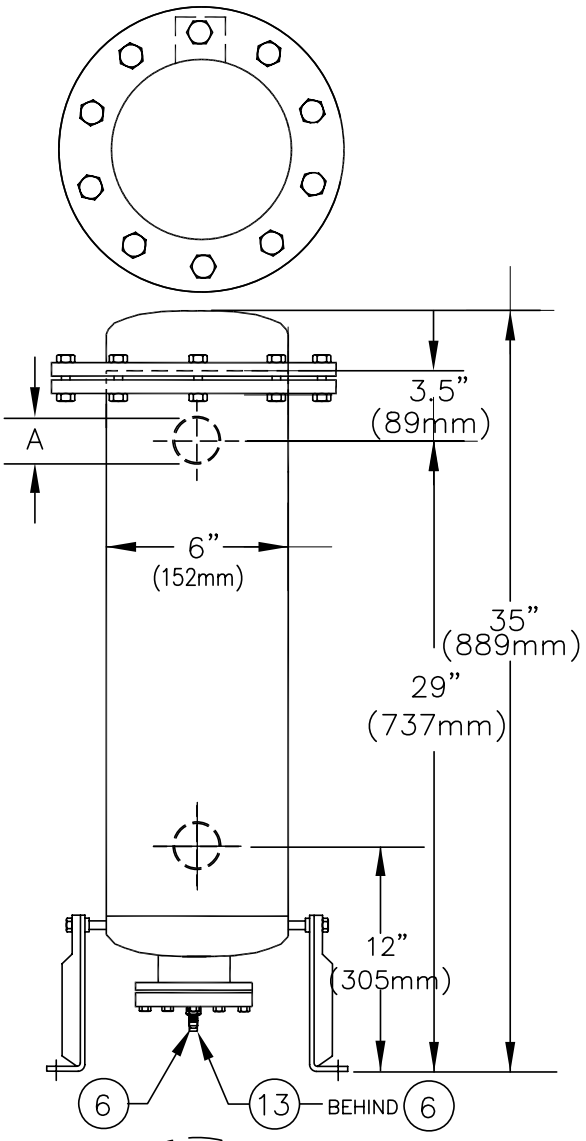
ITEM	DESCRIPTION
8	GASKET
7	SIGHT GLASS
6	OIL RETURN –1/4"SAE
5	OUTLET
4	INLET
3	BAFFLE
2	FILTER
1	SHELL

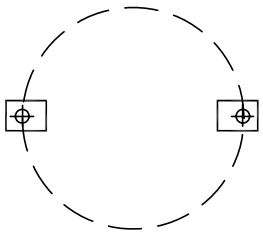
BILL OF MATERIAL

Temprite

DESCRIPTION	ACCESSIBLE OIL SEPARATOR W/RESERVOIR	
APPROVED TJS		
ENGR. JN		
DATE 4–03		MODEL 924R–925R
DR. BY		DRAWING NO. 924R–5R







FOOT PRINT
a) 180° apart on a 9" dia. bolt circle.
b) 1/2" hole for a 3/8" bolt.

OIL CHARGE: 34oz (1 liter)

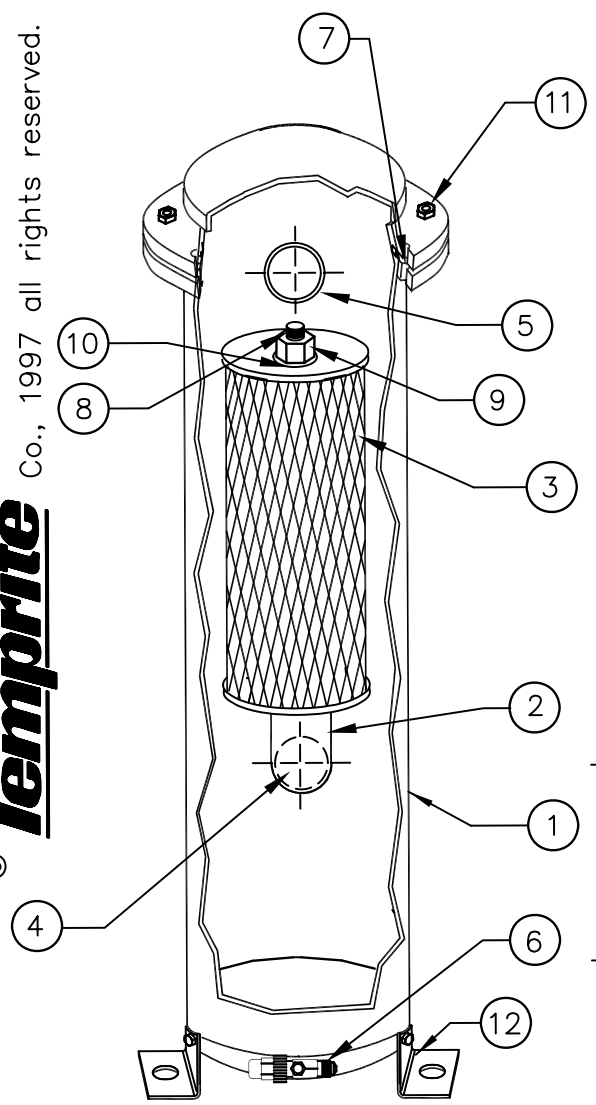
ITEM	DESCRIPTION
14	FLOATBALL ASSEMBLY
13	OIL DRAIN PLUG – 1/4" NPT
12	LEGS (2)
11	5/16–24 x 1–1/2" BOLT
10	GASKET WASHER
9	3/8–16 FLEX–LOC NUT
8	3/8–16 THREADED ROD
7	GASKET
6	OIL RETURN–3/8" SAE
5	OUTLET
4	INLET
3	FILTER
2	INLET ELBOW
1	SHELL

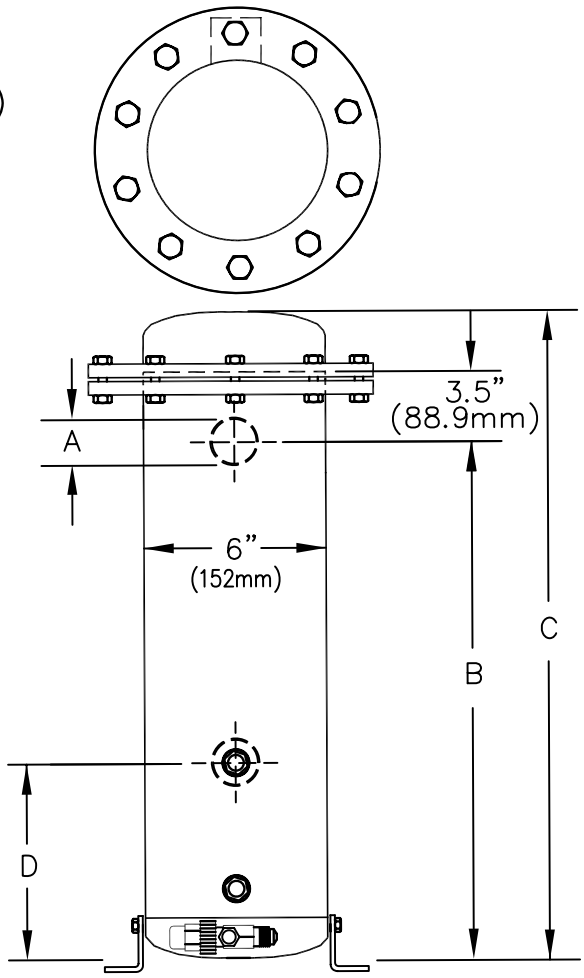
BILL OF MATERIAL

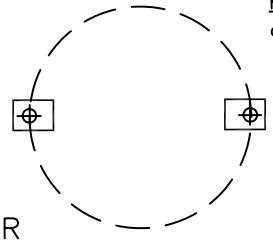
MODEL	926	927
A	1–5/8(41mm)	2–1/8(54mm)

Temprite

DESCRIPTION	ACCESSIBLE OIL SEPARATOR	
APPROVED	TJS	
ENGR.	JN	
DATE	4/03	MODEL 926/927
DR. BY		DRAWING NO. 926–927







FOOT PRINT
a) 180° apart on a 8-3/8" dia. bolt circle.
b) 9/16" hole for a 1/2"(12.7mm) bolt.

RESERVOIR CAPACITY:
6.7 liters/1.8 gal./228 oz.
CAPACITY TO BOTTOM SIGHT GLASS:
1.5 liters/.39 gal./50 oz.

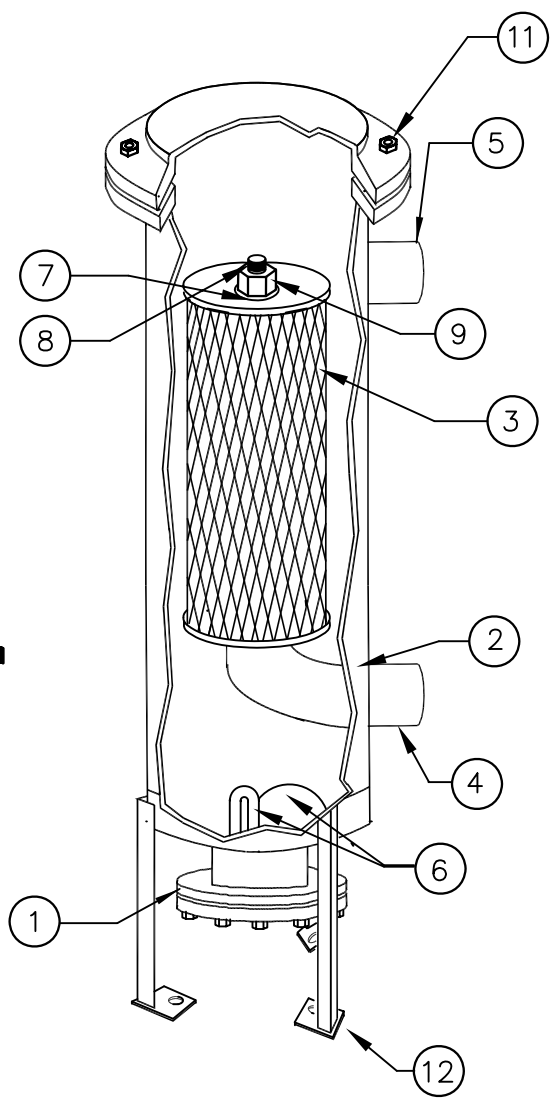
MODEL	926R	927R
A	1-5/8"(41mm)	2-1/8" (54mm)
B	33-7/8" (860 mm)	33-7/8" (860 mm)
C	39-3/8" (1000 mm)	39-3/8" (1000 mm)
D	16-5/8" (422 mm)	16-5/8" (422 mm)

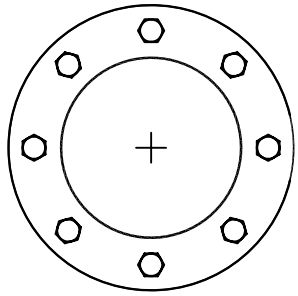
ITEM	DESCRIPTION
12	LEGS (2)
11	5/16-24 x 1-1/2" BOLT
10	GASKET WASHER
9	3/8-16 FLEX-LOC NUT
8	3/8-16 THREADED ROD
7	O-RING
6	OIL RETURN-3/8" SAE
5	OUTLET
4	INLET
3	FILTER
2	INLET ELBOW
1	SHELL

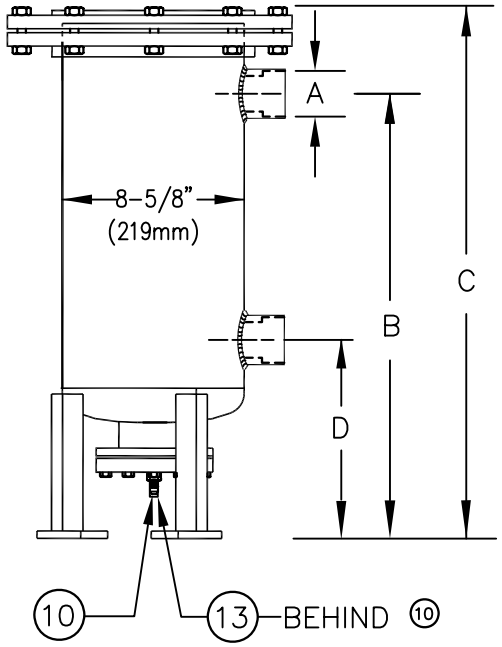
BILL OF MATERIAL

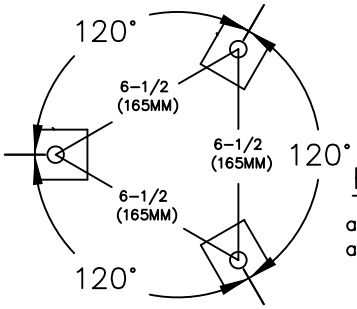
Temprite

DESCRIPTION	ACCESSIBLE OIL SEPARATOR W/RESERVOIR		
APPROVED	TJS		
ENGR.	RVN		
DATE	5-16-97	MODEL	926R/927R
DR. BY	KST	DRAWING NO.	926R









FOOTPRINT

a) 9/16" hole for a ½"(12.7mm) bolt

OIL CHARGE: 34 oz./1 liters

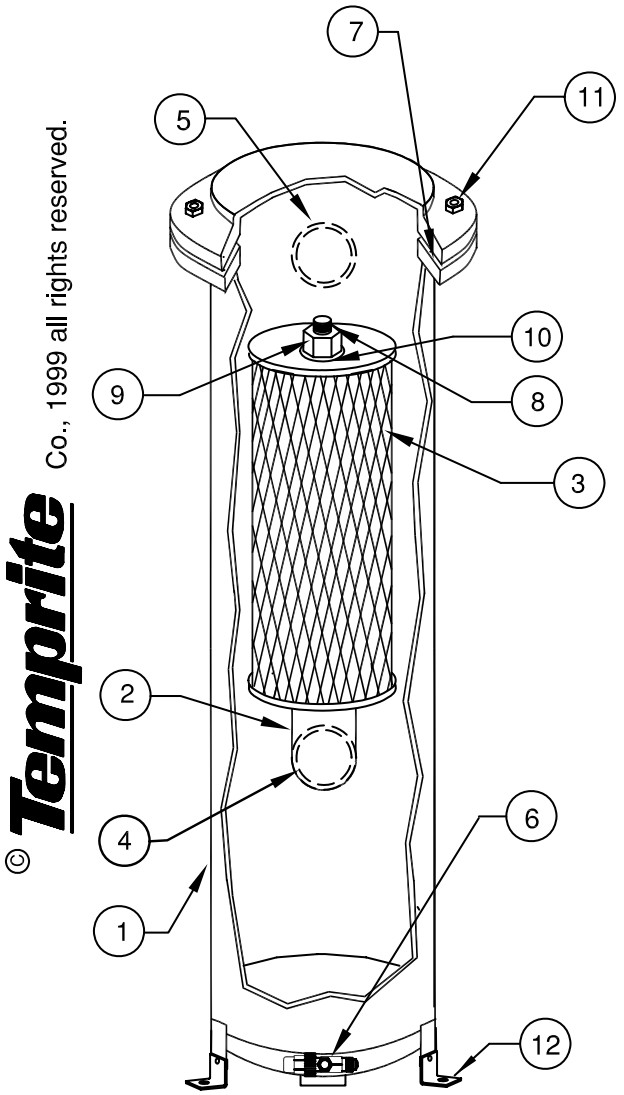
ITEM	DESCRIPTION
13	1/4" NPT OIL DRAIN
12	LEG (3)
11	3/4-10 UNC HEX BOLT
10	OIL RETURN-3/8" SAE
9	1/2-13 UNC LOCKNUT
8	1/2-13 UNC SHAFT
7	GASKET WASHER
6	FLOATBALL ASSEMBLY
5	OUTLET
4	INLET
3	FILTER
2	SHELL
1	BOTTOM PLATE ASSEMBLY

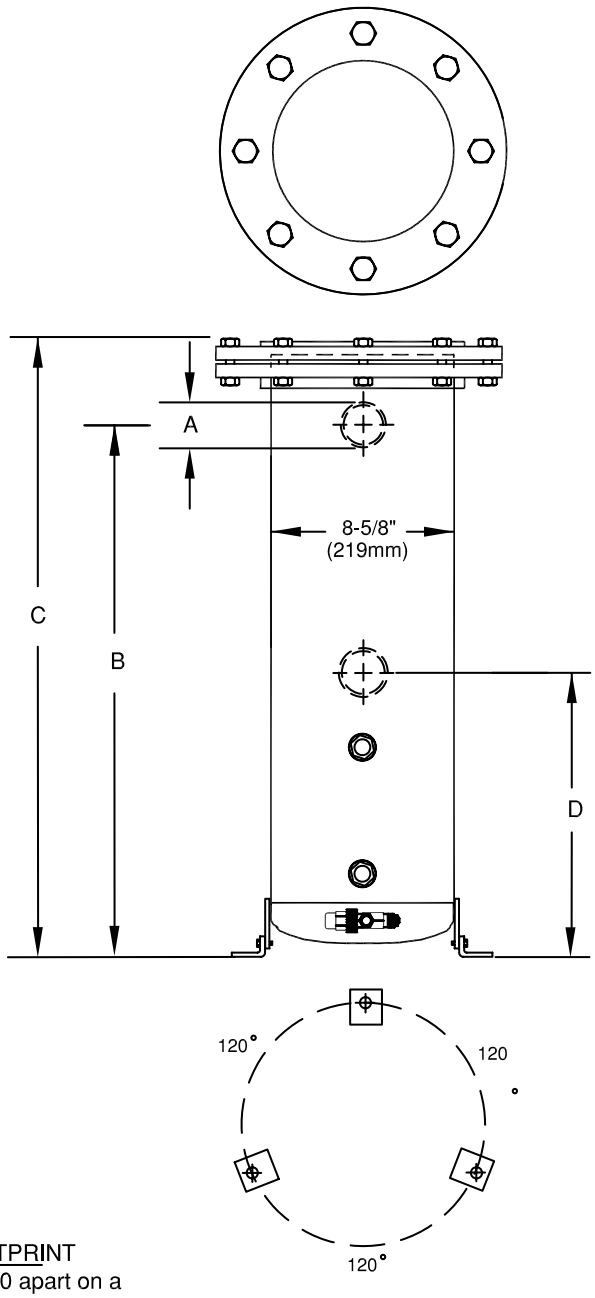
BILL OF MATERIAL

MODEL	A	B	C	D
928	2-5/8" (67mm)	33.625 (854mm)	40.25" (1022mm)	12.75" (324mm)

Temprite

DESCRIPTION	ACCESSIBLE OIL SEPARATOR		
APPROVED	TJS		
ENGR.	RVN		
DATE	12-18-97	MODEL	928
DR. BY	KST	DRAWING NO.	928





RESERVOIR CAPACITY:

2.0 gal./256 oz./7.5 liters
128 oz./3.8 liters to btm. sight glass

FOOTPRINT

a) 120 apart on a
11" (279.4mm) dia. bolt circle.
b) 9/16"(14mm) hole for a 1/2"(12.7mm) bolt.

ITEM	DESCRIPTION
12	LEGS (3)
11	3/4-10 UNC HEX BOLT
10	GASKET WASHER
9	1/2-13 UNC LOCKNUT
8	1/2-13 UNC SHAFT
7	O-RING
6	OIL RETURN-3/8" SAE
5	OUTLET
4	INLET
3	FILTER
2	INLET ELBOW
1	SHELL

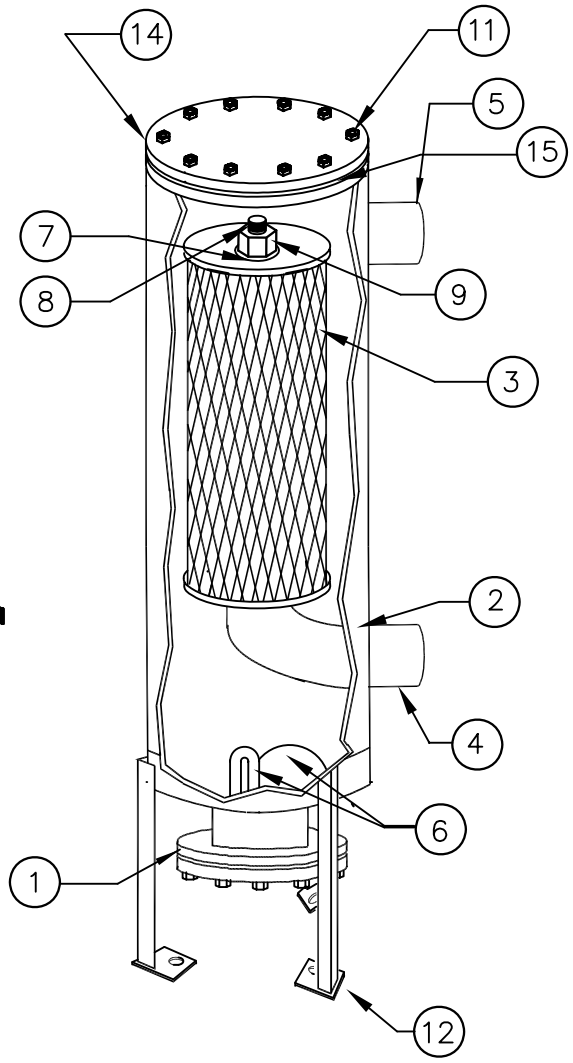
BILL OF MATERIAL

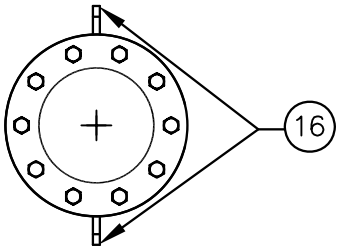
MODEL	A	B	C	D	
928R	2-5/8" (67mm)	32.375" (822mm)	39" (991mm)	11.5" (292mm)	

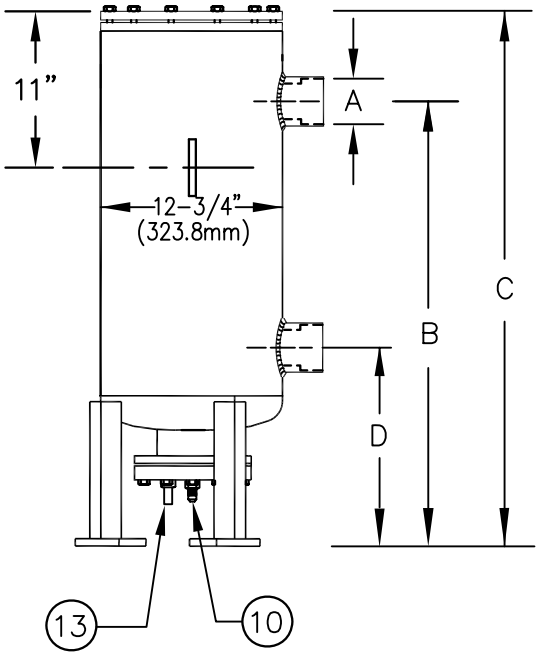
REV	DATE	DESCRIPTION
A	1-7-02	CHANGE LENGTH AND RESERVOIR CAPACITY

Temprite

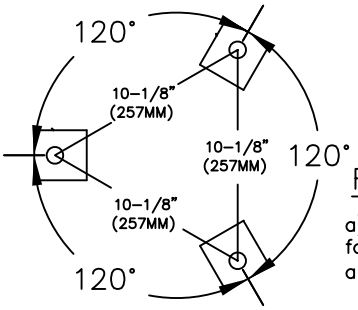
DESCRIPTION	ACCESSIBLE OIL SEPARATOR W/RESERVOIR		
DATE 5-16-97		MODEL	928R
DR. BY RVN		DRAWING NO.	928R







OIL CHARGE: 85 oz./2.5 liters



FOOTPRINT

a) 9/16"(14mm) hole for a 1/2"(12.7mm) bolt

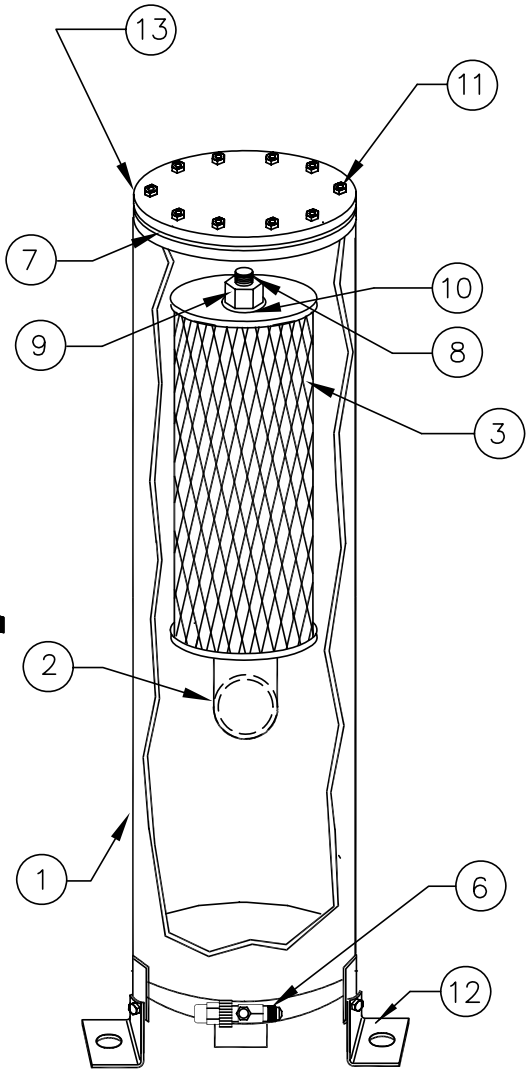
ITEM	DESCRIPTION
16	LIFTING LUGS
15	O-RING
14	TOP PLATE 1" THICK
13	1/4" NPT OIL DRAIN
12	LEG (3)
11	3/4-16 UNF HEX BOLT (10)
10	OIL RETURN-3/8" SAE
9	1/2-13 UNC LOCKNUT
8	1/2-13 UNC SHAFT
7	GASKET WASHER
6	FLOATBALL ASSEMBLY
5	OUTLET
4	INLET
3	FILTER
2	SHELL
1	BOTTOM PLATE ASSEMBLY

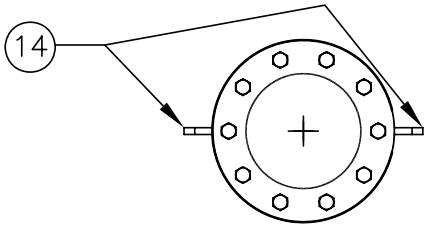
BILL OF MATERIAL

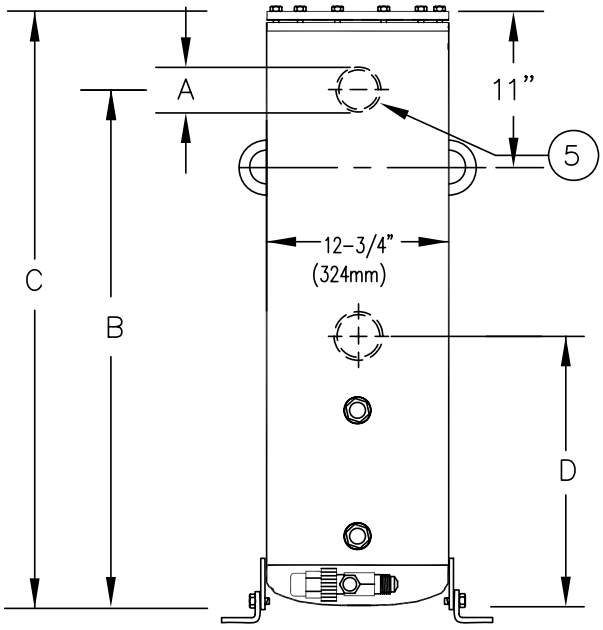
MODEL	A	B	C	D
930	3-1/8" (79mm)	35-3/4" (908mm)	43-3/8" (1101mm)	13.75" (349.2mm)

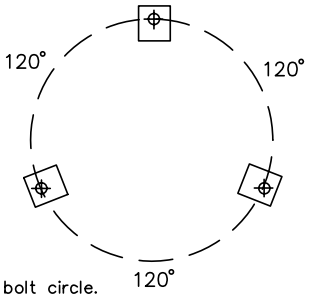
Temprite

DESCRIPTION: ACCESSIBLE OIL SEPARATOR		
APPROVED: TJS		
ENGR.: JN		
DATE: 8-18-05		MODEL: 930
DR. BY		DRAWING NO.: 930









RESERVOIR CAPACITY:
5.7 gal./21.25 liters
CAPACITY TO BOTTOM SIGHT GLASS:
2.2 gal./8.3 liters

FOOTPRINT
a) 120 apart on a
15-3/8"(390.5mm) dia. bolt circle.
b) 9/16"(14mm) hole for a 1/2"(12.7mm) bolt.

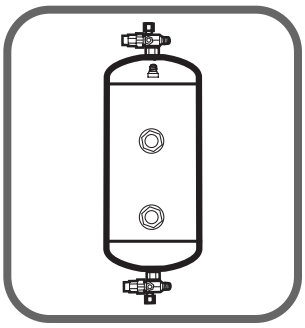
ITEM	DESCRIPTION
14	LIFTING LUGS
13	TOP PLATE 1" THICK
12	LEGS (3)
11	3/4-16 UNF HEX BOLT (10)
10	GASKET WASHER
9	1/2-13 UNC LOCKNUT
8	1/2-13 UNC SHAFT
7	O-RING
6	OIL RETURN-3/8" SAE
5	OUTLET
4	INLET
3	FILTER
2	INLET ELBOW
1	SHELL

BILL OF MATERIAL

MODEL	A	B	C	D
930R	3-1/8" (79mm)	37-1/8" (943mm)	44-3/4" (1137mm)	15-1/8" (384mm)

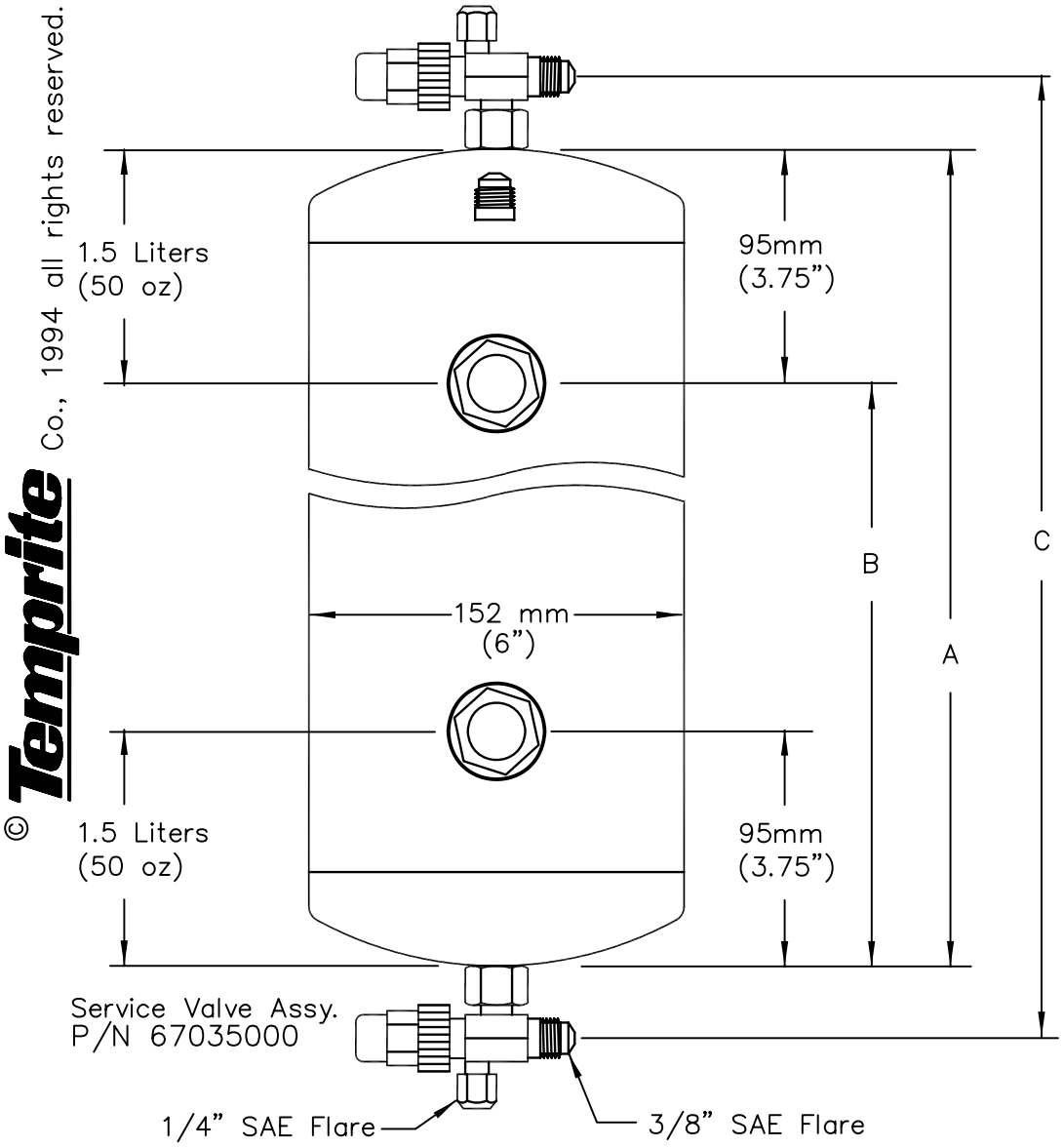
Temprite

DESCRIPTION	ACCESSIBLE OIL SEPARATOR W/RESERVOIR		
APPROVED	TJS		
ENGR.	JN		
DATE	8-18-05	MODEL	930R
DR. BY		DRAWING NO.	930R



Oil Reservoirs

1. Locate the reservoir in a warm, draft free area.
2. Install the reservoir in a vertical position (with vent on top) between the separator and the oil level controls.
3. Clamp and support the reservoir and piping properly to minimize vibration potential.
4. Be sure not to block the view of oil sight glasses.
5. Install a pressure reducing check valve from the oil reservoir vent port to the suction line.
6. Keep the reservoir cool when brazing.
7. Add the specific type of compressor oil being used. Fill reservoir to the bottom of the top sight glass.
8. Check the oil level on new installations frequently.

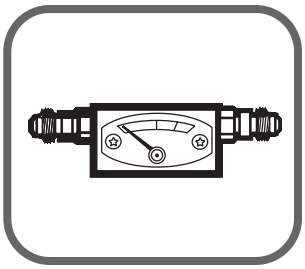


Model	A liters	A gal/oz	B liters	B gal/oz
47115	11.5	3/388	10	2.6/338
47080	8	2.1/270	6.5	1.7/220
47058	5.8	1.6/196	4.3	1.2/146

A mm	A inches	B mm	B inches	C mm	C inches
692	27–1/4	597	23–1/2	762	30–1/4"
489	19–1/4	394	15–1/2	559	22–1/4"
343	13–1/2	248	9–3/4	413	16–1/2"

Temprite

DESCRIPTION	OIL RESERVOIR		
APPROVED	TJS		
ENGR.	RVN		
DATE	12–15–94	MODEL	SEE TABLE
DR. BY	CJK	DRAWING NO.	OILRES



224 Pressure Differential Indicator

The Model 224 Pressure Differential Indicator (PDI) is calibrated and tested prior to shipment and is ready for immediate installation. Use of the following installation procedures should eliminate potential damage and provide optimum trouble-free operation.

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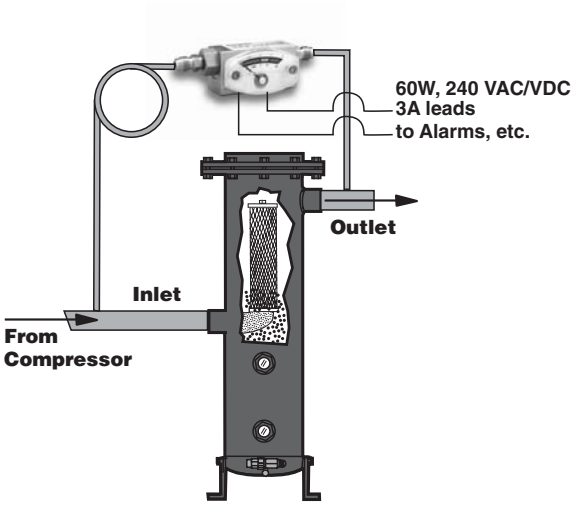
1. There are (2) two 1/4″ SAE Male Flare connections provided. They are identified on the housing as IN and OUT. Make sure the connections are correct. Improper connections will not damage the PDI, but it will not function properly.
2. The PDI should be mounted above the oil separator's process connections to promote self-draining. The inlet process tube should incorporate a "pig-tail" loop or drop leg (manometer "U-tube" configuration) to minimize the possibility of oil and particulates migrating into the PDI.
3. The switch is set at 12 PSID/0.83 Bar nominal on increasing differential pressure.
4. Electrical interface is via (2) two 22Awg. 105C, 300 volt rated wire leads. Lead length is 12″. The switch is rated at 60 W, 3 A. The product of the switching voltage and current shall not exceed 60 W resistive load at 24 VDC.
5. The units with switches are intended for low voltage systems where a protected conductor terminal is not required or the switch is installed in another enclosure where the switch is not accessible.
6. Materials
   a. Seals: Neoprene
   b. Internals: Stainless Steel
   c. Body: Aluminum
   d. Fittings: Aluminum, 1/4″ Male 45° Flare
7. Green/Yellow transition for dial is nominally at 10 PSID or .7 bar, and the Yellow /Red transition is nominally at 13 PSID or .9 bar.
8. Warning: All adjustments shall be performed by qualified personnel with the unit un-powered.
9. Warning: Electrical connections should be preformed by qualified personnel and meet representative national electrical code.

Additional Temprite Products

Pressure Differential Indicator

The Model 224 Pressure Differential Indicator (PDI) tells you the Δp at the filter. It's important to know when your filter is dirty and needs to be changed.



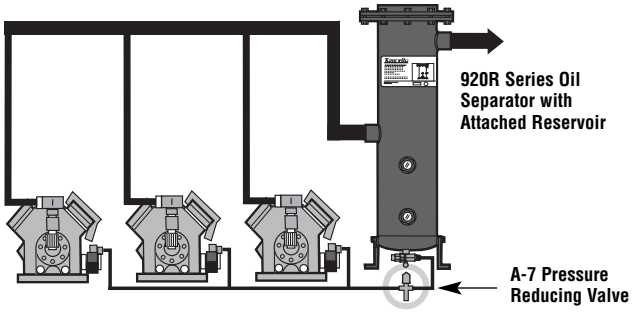
Temprite Mechanical Oil Level Controls

Are for multiplexed rack/pack systems. They're designed to keep a constant flow of oil to the compressor and to keep it's crankcase at the specified level.

The vast majority of ***Temprite*** **920 "R" Series** separator/reservoir users monitor the oil back to the **Oil Level Control** by adjusting the **A-7 Pressure Reducing Valve** to the pressure they desire. Please be aware of your system's requirements.

Temprite Valves

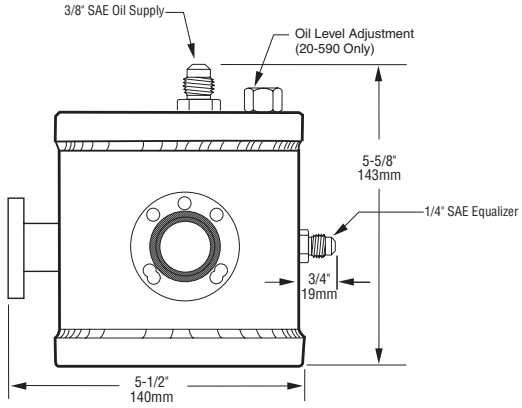
Part Number	Model	Operating Pressure
67050000	**A-7**	5″ Hg-90 PSIG/0.17-6.2 Bar



1. Set the A-7 Pressure Reducing Valve to 5-10 PSIG/0.34-0.7 Bar above the maximum compressor crankcase pressures.
2. Some system transitions may raise suction pressures above the normal running pressure, such as cycles after defrost.
3. A satellite compressor may have a much lower suction pressure than the other multiplexed compressors and may need its own reducing valve.
4. Multi-stage compressors may have a higher crankcase pressure than suction pressures.
5. It is important to be aware of the maximum crankcase pressure.

Mechanical Oil Regulators

Part Number	Model	Operating Pressure
025090000	**20-590**	Adj. 5-90PSIG/0.34-6.2 Bar
025590000	**25-590**	Non-Adj. 5-90 PSIG/0.34-6.2 Bar



Temprite® Limited Warranty/Disclaimer

A: Limited Warranty on the Temprite Product. If within the time specified below, the Temprite Product shall prove to be defective in material or workmanship, upon examination Temprite shall supply an identical or substantially similar replacement Temprite Product or part, or, at Temprite's option, Temprite will repair such Temprite Product. This warranty does not cover any labor costs incurred by purchaser for repair of equipment into which the Temprite Product has been integrated.

Where Temprite elects to replace a defective Temprite Product or to repair the Temprite Product at its own factory, purchaser shall ship the Temprite Product to Temprite c.i.f. Temprite's warehouse. Temprite shall reimburse purchaser for cost, insurance and freight charges if the Product proves to be defective.

The Warranty set forth above shall be in effect with respect to the Temprite Product for one year following the date of delivery of the Temprite Product at purchaser's site. Purchaser must notify Temprite of a warranty claim within this period. Any repair or replacement of a Temprite Product provided hereunder shall be warranted against defects in material and workmanship for the unexpired portion of the Temprite Product's warranty.

B. DISCLAIMER. THIS WARRANTY SHALL BE APPLICABLE ONLY WITH RESPECT TO A TEMPRITE PRODUCT WHICH IS THE PROPERTY OF THE PURCHASER OR ORIGINAL USER AND WHICH HAS BEEN PROPERLY USED, OPERATED AND MAINTAINED IN ACCORDANCE WITH THE INSTRUCTIONS PROVIDED WITH THE TEMPRITE PRODUCT (OR EQUIPMENT INTO WHICH IT HAS BEEN INTEGRATED) AND FOR THE PURPOSE FOR WHICH THIS WARRANTY SHALL NOT BE APPLICABLE IF THE TEMPRITE PRODUCT (OR EQUIPMENT) OR ANY PART THEREOF HAS BEEN REPAIRED OR REPLACED BY PURCHASER OR THE ORIGINAL USER CONTRARY TO TEMPRITE'S OR PURCHASER'S WRITTEN INSTRUCTIONS OR HAS BEEN SUBJECTED TO ANY ACCIDENT, CASUALTY, MISAPPLICATION, ALTERATION, ABUSE OR MISUSE. NO OTHER WARRANTY, EITHER EXPRESSED OR IMPLIED (INCLUDING WITHOUT PARTICULAR LIMITATION) WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, HAS BEEN OR WILL BE MADE WITH RESPECT TO THE TEMPRITE PRODUCTS, AND ACCESSORIES OR THEIR INSTALLATION, USE, OPERATION, REPLACEMENT, OR REPAIR.

   THIS WARRANTY DOES NOT COVER DAMAGE DUE TO FAILURE OF EQUIPMENT INTO WHICH THE TEMPRITE PRODUCT HAS BEEN INTEGRATED.

   TEMPRITE SHALL NOT BE LIABLE BY VIRTUE OF THIS WARRANTY, OR OTHERWISE, FOR ANY INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGE RESULTING FROM THE USE OR OPERATION OF THE TEMPRITE PRODUCT, WHETHER OR NOT TEMPRITE WAS APPRISED OF THE POSSIBILITY OF SUCH DAMAGES.

   IRRESPECTIVE OF ANY STATUTE, PURCHASER RECOGNIZES THAT THE EXPRESS WARRANTY SET FORTH ABOVE IS THE EXCLUSIVE REMEDY TO WHICH IT IS ENTITLED AND WAIVES ALL OTHER REMEDIES, STATUTORY OR OTHERWISE. REPAIR OR REPLACEMENT SHALL BE THE PURCHASER'S SOLE REMEDY UNDER THIS WARRANTY.

THIS WARRANTY SHALL BE CONSTRUED AND INTERPRETED IN ACCORDANCE WITH THE LAWS OF THE STATE OF ILLINOIS, USA, WITHOUT REGARD TO ITS CONFLICTS OF LAW PROVISIONS.

THIS WARRANTY SHALL EXTEND ONLY TO THE PURCHASER AS ORIGINAL EQUIPMENT MANUFACTURER AND TO THE FIRST USER OF THE PRODUCTS.

TEMPRITE WARRANTIES THE PRESSURE VESSEL SHELL ONLY, FOR A PERIOD OF FIVE YEARS FROM THE DATE OF MANUFACTURE. THIS WARRANTY IS SPECIFIC TO THE PRESSURE VESSEL ITSELF AND EXCLUDES ALL MOVING PARTS AND COMPONENTS SUCH AS FILTERS, O-RINGS, BOLTS, FLANGE COVERS, NUTS, WASHERS, GAUGES, INTERNAL MECHANISMS, FLOAT BALL ASSEMBLIES, AND NOZZLES/CONNECTORS.

The Temprite Company

West Chicago, Illinois

Parts List

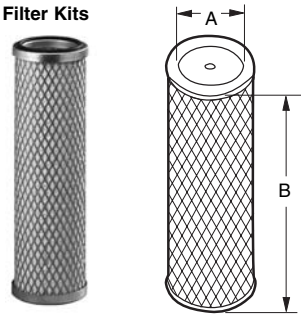
920 Filter Kit

Part Number	Model	Approx. Domestic Shipping Weight Pounds

920 FILTER KITS

Part Number	Model	A Nominal	B Nominal	Weight Pounds
62034000	922-923, 922R-923R	1″/2.54cm	5″/12.7cm	1#/0.4kg
62037000	924-925, 924R-925R	2″/5.08cm	9″/22.86cm	1#/0.4kg
62028000	926-927, 926R-927R	3.5″/8.8cm	4″/35.56cm	3#/0.36kg
62051000	928, 928R	5.15″/23.08cm	16″/40.64cm	5#/2.27kg
62085000	930, 930R	8.5″/21.59cm	16″/40.64cm	9#/4.08kg

Filter Kits

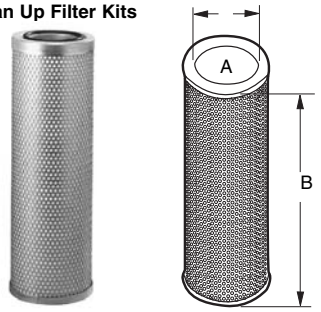


920 Pleated "Clean UP" Kit

920 PLEATED "CLEAN UP" FILTERS

Part Number	Model	A Nominal	B Nominal	Weight Pounds
62024000	922-923, 922R-923R	1″/2.54cm	5″/12.7cm	1#/0.4kg
62047000	924-925, 924R-925R	2″/5.08cm	9″/22.86cm	1#/0.4kg
62030000	926-927, 926R-927R	3.5″/8.8cm	4″/35.56cm	3#/0.36kg
62092802	928, 928R	5.15″/23.08cm	16″/40.64cm	6#/2.7kg
62086000	930, 930R	8.5″/21.59cm	16″/40.64cm	12#/5.44kg

Clean Up Filter Kits



Pressure Differential Indicator

PRESSURE DIFFERENTIAL INDICATOR

Part	Model	Weight Pounds
022400000	224	1#/0.4kg

Tells you when to change the filter.

Model 224

GENUINE Temprite® PRODUCTS

Parts List

Replacement Parts

Part Number	Model	Approx. Domestic Shipping Weight Pounds

FLOAT & PLATE ASSEMBLIES

Part Number	Model	Weight Pounds
51100000	**Flt/Ndl Assy 501-505**	1#/0.4kg
52200000	**FltBllAssyW/Btom Plt 506-507, 926-927** (Top Load)	4#/1.8kg
52300000	**FltBllAssy W/Btom Plt 508-510, 928,930**	5#/2.27kg
059260000	**Btm Assy 926-927** (Old Style)	5#/2.27kg
059260000D	**Btm Dome Assy w/drain 926-927** (Old Style)	5#/2.27kg

Bottom Plate, Float, Needle and Seat Assembly Part No. 52200000 For Models 506-507, 926-927 Top Load

Bottom Plate, Float, Needle and Seat Assembly Part No. 52300000 For Models 508-510, 928, 930

Float, Needle & Seat Assembly Part No. 51100000 For Models 501-505

4″ BOTTOM PLATE GASKETS AND 4″ TOP PLATE GASKETS

Part Number	Model	Quantity	Weight Pounds
55000010	**501-507, 922-930, 922R-930R**	10	1#/0.4kg
55000050	**501-507, 922-930, 922R-930R**	50	1#/0.4kg

Gaskets are available in 10- pack and 50-pack quantities. New gaskets are recommended with each filter change.

6″ TOP PLATE GASKETS

Part Number	Model	Quantity	Weight Pounds
55100010	**926-927, 926R-927R**	10	1#/0.4kg
55100050	**926-927, 926R-927R**	50	1#/0.4kg

Gaskets are available in 10- pack and 50-pack quantities. New gaskets are recommended with each filter change.

TOP PLATE O-RINGS

Part Number	Model	Weight Pounds
55928000	**928, 928R**	1#/0.4kg
559300000	**930, 930R**	1#/0.4kg

O-Rings are available in 50-pack quantities.

Sight Glasses

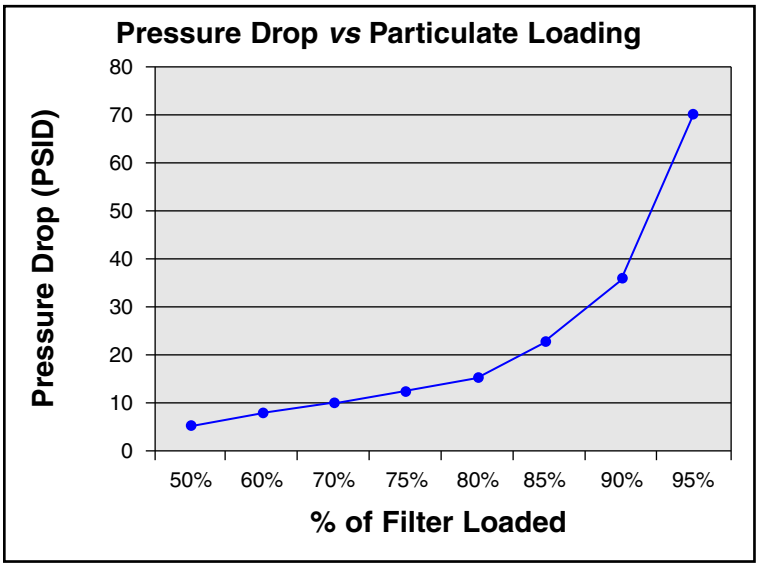
Part	Model	Weight
76115000	**15/16-20 THREAD (MARKED)**	1#/0.4kg
76116000	**1 1/8-18 THREAD (UN-MARKED)**	1#/0.4kg

Temprite Genuine Parts® are available at over 2,500 wholesalers.

GENUINE Temprite® PRODUCTS

Pressure Drop *vs* Particulate Loading

Pressure Drop	Approximate % of Filter Loaded	Action
<5 psid – 0.34 bar	50%	
<7 psid – 0.48 bar	60%	
<10 psid – 069 bar	70%	
<12 psid – 0.83 bar	75%	**Change Filter**
<15 psid – 1.03 bar	80%	**Change Filter**
<20 to 25 psid – 1.4 to 1.7 bar	85%	**Change Filter**
<30 to 40 psid – 2.1 to 2.8 bar	90%	**Filter O-ring could dislodge**
<60 to 80 psid – 4.1 to 5.5 bar	95%	**Filter could rupture**



Pressure drop can compound itself at exponential rates. This is why it is important to keep the 920 Series internal filter clean and free from debris and solid contaminants.